



## **STREET IMPROVEMENT PLANS**

**Street Improvement Plans** includes curb and gutter, sidewalk, drive approach, paving, median landscaping and irrigation, alley, storm drain, water, sewer, traffic signal, traffic control, street striping, and other related improvements in the public right of way.

### **Submittal Requirements for Plan Checking:**

#### **Number of prints**

First submittal: three sets.

More sets may be needed for complex projects with multiple categories of plan checking.

**Plan check fees** - \$\_\_\_\_\_/hr, Initial deposit will be calculated at the time of submittal. The volume and complexity of the plans will determine the amount of the initial deposit.

**Additional requirements as needed** – One (1) set of each of hydrology study, soils report, traffic study, traffic signal specification, water/sewer study, water demand calculation, street cross-section and cost estimates.

### **Plan Check Process:**

**First submittal** – All submittal shall be at Public Works Agency Counter, 20 Civic Center Plaza, Santa Ana, CA 92702. Plans will be scheduled for plan checking in the order they are received. Plans must be stamped and signed by a registered Civil Engineer with registration number and date of expiration.

**Subsequent submittals** – Submit revised prints, all previous redlined prints, And other items required to be submitted per plan check comments.

**Approval** – If the City Engineer signature is required on the plans, bring in an unfolded copy for signature once the plans are approved. After signature the applicant will be notified, and copies can be requested through Bonded Blueprint Companies. Final plan check fees must be paid prior to release of the approved plans.

**Processing Time:**

The processing time for plan check will depend on the current volume of street plans currently waiting for review, as well as the plan checkers' other assignments. The completeness and accuracy of the plans may also be a factor. Also, take into account the time you may need to address the concerns and make the corrections, once you receive them.

**Improvement Standards:**

Restorations and improvements must be made to City Standards and to the most current edition of the Standard Specifications for Public Works Construction (Greenbook). In case of discrepancy, the stricter of the two apply. City Standards may be obtained by going to [santa-ana.org](http://santa-ana.org), and clicking on City Hall, Departments, Public Works, Engineering. Then scroll down to the standard plans. Call out City standard drawing number of items you are constructing on your plans.

**Traffic Control:**

If you believe that the work being submitted can be done under a WATCH scenario, come to the Public Works Counter with a set of excavation plans. We will look at your project and, if approved, you will not have to submit a traffic control plan. Development Engineering will determine the page from WATCH that may be used.

**Work Guarantee** A surety is required to guarantee the applicant does restoration of public improvements after work. This can be in the form of a surety bond or a cash deposit. If placing a cash deposit, be sure to provide the correct address at the time of payment of the deposit, as this will be the address to which your refund check is mailed. Should you change address prior to the time of receiving your check, be sure to notify Development Engineering of the new address. This deposit is separate from the initial plan check deposit.

**Guidelines and General Notes:** In order to meet City Standards the following **Guidelines** and **General Notes** shall be used in the preparation of Street Improvement plans.

### **Guidelines in preparing Street Improvement, Storm Drain, Water, and Sewer Plans:**

Note: If any of items 1, 2, and 3 are not met, plans will not be accepted for review and returned to the applicant at the counter.

1. Plans must be on paper size of 24" x 36" with City standard Title Block.
2. All fonts on plans should be a minimum of 0.1".
3. Plan Scale shall be 1"=20', except details.
4. Street name(s)
5. Limit of construction and sheet numbers.
6. Project Address.
7. Project Proceedings, if any [i.e. PM, TM, DP, LLA, etc.].
8. Name, address and telephone number of Engineering Co. who prepared the plan.
9. Seal and signature of the Project Engineer.
10. Signature block for Water Resources and Fire Department, as required.
11. Bench marks, use Orange County's latest version.
12. Sheet Index.
13. General Notes
14. Private Engineer's Utility Certification.
15. Vicinity Map
16. Construction Notes and quantities.
17. Legend.
18. Street typical sections and details.
19. North arrow [pointing up or to the right].
20. Profile Scale: Horizontal: 1"=20', Vertical: 1"=2' or 1"=4'.
21. Street name and closest intersection.
22. Curve data - radius, delta, length, and tangent length.
23. Street centerline bearing.
24. Stations, dimensions, and elevations.
25. Show existing topography.
26. Proposed street improvements, such as driveways, curb and gutter, sidewalk, and street pavement.
27. Existing and proposed City facilities, such as domestic water meter, irrigation meter, fire service, fire hydrants, and water main.
28. Existing and proposed sewer main and laterals.
29. Existing and proposed storm drain, catch basin, junction structure, and parkway culverts.
30. Existing and proposed private utility lines, such as electric, telephone, gas, communication cable, etc.
31. Existing and proposed street lights, street trees, and street signs.
32. Existing above ground and underground City facilities need to be shown to maintain minimum clearances. This includes, but is not limited to: domestic water meter, irrigation meter, fire service, fire hydrants, water and sewer mains and

services, storm drain, catch basin, junction structure, street lights conduit, street trees, street signs, basements extending into the right of way, parkway culverts, traffic signal conduit, etc.

33. Construction plans can be obtained at Central Files in Public Works. Call (714) 647-5056 for hours and location. Arrangements need to be made before arriving, since Central Files is in a restricted area. When requesting water, sewer, traffic signal conduit, storm drain, and street light conduit, be sure to ask for construction as-built plans and not maps. The maps do not show enough detail for plan preparation. Central Files will have all underground (City-owned) items, except basements.
34. For basements in the right of way, contact the Building Department at (714) 647-5800.
35. Minimum grades are:
  - a. .20% - street
  - b. .30% - cross-gutter
  - c. .30% - cul-de-sac
  - d. .30% - curb return
  - e. 1.70% - cross fall
31. Show new improvements with dark solid lines, show existing improvements with dashed lines. Note connections or joint to existing improvements. Screened lines and text are not acceptable.
32. All existing elevations shall be shown with a bracket. New elevations shall be without a bracket.
33. Show details of all improvements if not City standard. For all standard improvements, show City standard drawing number. City standards are available by going to [santa-ana.org](http://santa-ana.org), and navigating through City Hall, Departments, Public Works, Engineering, and scrolling to the lower middle of the page.
34. Show flowline elevations on all BCR's, ECR's, and along flowline of cross-gutters.
35. Flow line grades and height of curbs shall be shown in the plan view at critical points.
36. Profile centerline, top of curb, and existing ground at property line.
37. Profile should line up with plan view.
38. On profile, label and show stations and elevations at the beginning and end of all curb returns, vertical curves, horizontal curves, grade breaks, and beginning and end of improvements.
39. Show bubbles on grade breaks.
40. Show transition between different types of curbs, and between different curb heights.
41. Minimum pavement sections:
  - 3"AC/6"AB - local street
  - 4"AC/8"AB - undivided arterial street
  - 5"AC/10"AB - divided arterial streetSubmit soils report for verification and approval.
42. Power poles, fire hydrants, street lights, street trees, signs and water meters shall maintain 10' clear from driveway "top of x" as much as possible.
43. Driveways must show station and dimensions per City standard, such as W, A and X.
44. Check for pavement moratorium. The current list can be found by going to [santa-ana.org](http://santa-ana.org), and navigating through City Hall, Departments, Public Works, Engineering, Street Moratorium. If you see new pavement on your field visit and the street is not

on the list, then it was paved after the list was published. In that case the moratorium applies.

45. Unless excavating by open trench, note in the legend and depict each location to show potholing to provide a minimum vertical clearance of 1' from all City utilities. These dimensions are to be measured from outer diameters of both the City utility and the proposed utility.
46. Installations shall maintain a 60" horizontal clearance and 12" vertical clearance from City utilities. These dimensions are to be measured from outer diameters of both the City utility and the proposed utility.
47. If any dry utilities are being installed, see the City's Utility Plan Guidelines. These may be requested at the Public Works Counter.
48. Storm drains shall maintain a 5 foot clearance from fire hydrants, street lights, street trees, signs, water meters, driveways, street light conduit and signal conduit.
49. Indicate which travel lanes and sidewalks are being closed.
50. Stationing from nearest intersection and offset from centerline for anything being installed.
51. For water and sewer installations, obtain the guidelines from Water Resources. Go to [santa-ana.org](http://santa-ana.org), and navigate through City Hall, Departments, Public Works, Engineering. The links to the standards are under the heading Guidelines for Water and Sewer Facilities Design and Water Facilities Disinfection. For questions on water and sewer design, please call Water Resources at (714) 647-3320.
52. Cement backfill is not allowed. Exceptions can be made for a half sack slurry mix.

#### **Guidelines in preparing Traffic Control Plans:**

1. Plan size to be 11" x 17".
2. Minimum 0.1" font size.
3. Plan must be site specific.
4. Use City Standard plan 1125F for further guidelines.
5. Submit two copies.

### **STREET IMPROVEMENT PLANS GENERAL NOTES**

The following notes (as applicable) shall be incorporated on all street improvement plans submitted by a Registered Engineer for public facilities constructed in conjunction with any private development.

#### **GENERAL NOTES**

1. All work shown hereon shall be constructed in accordance with the provisions of the AGC/APWA Standard Specifications for Public Works Construction (current edition) and supplemental standard provisions issued by and for use in the City of Santa Ana.
2. Contractor shall comply with Standard Plan No. 1160. Refer to [https://www.santa-ana.org/sites/default/files/Documents/1160\\_st.pdf](https://www.santa-ana.org/sites/default/files/Documents/1160_st.pdf). Copies are available at the Public Works counter.

3. Within 72-hours after final surfacing is placed, all manhole and valve box frames and covers shall be adjusted by the developer to finish grade. This is to be done prior to placing seal coat.
4. When construction of asphalt concrete (AC) pavement includes replacement of pavement over trenches, patches or cuts or an AC overlay, pavement shall be covered with penetration type asphalt emulsion (0.07 gallons per square yard) after street pavement has been cleaned. Fog seal coat is not required for construction of new streets or widening of existing streets.
5. Feather AC where meeting existing pavement. Feather to lane line or a minimum of 10 feet or as directed by the City Engineer.
6. The engineer for the subdivider shall provide hubs in the street for finished subgrade and finished grade at the crown, at all points where elevations are shown on the plans and at any additional points required by the City Engineer.
7. At the time of compacting the base soil and preparing subgrade, if the moisture content is such that the specified relative compaction cannot be obtained or the subgrade is yielding, the following remedial action shall be provided:
  - a. Remove excess moisture by scarifying and aerating, or
  - b. Excavate unstable areas and backfill with suitable material or base, or
  - c. Increase the aggregate base section, or
  - d. Stabilize the basement soil with suitable additives, or
  - e. Provide an alternate method suitable to the City Engineer.
8. Water mains and services are to be installed by the developer after the curb and gutter is constructed and before the base under the AC surfacing is laid. Contact Water Division Supervisor at (714) 647-3343 to arrange scheduling for water system work by the City.
9. The subdivider shall relocate any existing public utilities located in a dedicated right-of-way, as required by the City.
10. PERMIT NOTE – No permit will be issued for installation of underground utility lines until said utility lines are shown on the street improvement plans and their locations are certified by the private engineer and approved by the City.
11. VCP sewer connections are to be constructed from sewer mains to the property line. The developer is to furnish the City with the location of each connection. All sewer laterals are to be referenced on curb.
12. All VCP joints shall be plastic mechanical compression joints or bandseals.
13. It shall be the responsibility of the sewer contractor to expose all join points to the existing sewer and to have the location and elevation verified prior to any sewer stakes being furnished.

14. It shall be the responsibility of the contractor to have all flow line elevations at all sewer manholes verified prior to any pipe backfill. "As built" flow line elevations are to be submitted to the City prior to any paving.
15. Call Underground Service Alert at (800) 422-4133 at least 48 hours (two working days) prior to any excavation which may damage or interrupt the service of any underground utility line.
16. Use full-depth header for vertical faces of PCC construction.
17. Any permanent barricade or safety sign omitted on the plans and considered necessary by the City shall be installed by the developer at no cost to the City.
18. STREET LIGHTING – Before any electrical cable or conduit is placed for street lights, the locations for the proposed street lights are to be verified by the Construction Inspector at (714) 647-5074 after these locations have been marked out as shown on the improvement plans by the developer/contractor.
19. Cleanup and dust control – The contractor shall keep the worksite clean and free from rubbish and debris at the end of every working day and protect existing improvements per Section 7-9 of the Standard Specification for Public Works Construction.
20. Contact Tree Section Supervisor at (714) 647-3337 before installing any trees.
21. To obtain a permit to access water from a fire hydrant, contact the City Yard at (714) 647-3380.

**PRIVATE ENGINEER’S NOTICE TO CONTRACTOR**

Private and public utilities, if shown, reflect available record data. The contractor shall be responsible for locating all lines affecting this work and for any damage or protection to these lines. Prior to starting construction of this project, the contractor shall uncover all existing utility lines affecting this work and verify the elevations of said utility lines.

All contractors and subcontractors performing any work shown on or related to these plans shall conduct their operations so that all employees are provided a safe place to work and the public is protected. All contractors and subcontractors shall comply with the “Occupational Safety and Health Regulations” of the U.S. Department of Labor, with the “Construction Safety Orders” of the State of California Department of Industrial Regulations and with Caltrans Area Traffic Control Handbook (WATCH). However, the Construction Engineer and the City of Santa Ana shall not be responsible in any way for said compliance by the contractor or any subcontractors.

Furthermore, the contractor shall assume sole and complete responsibility for job site conditions during the course of construction of this project, including safety of all persons and property that this requirement shall apply continuously and not be limited to normal working hours, and that the contractor shall defend, indemnify, and hold the owner, engineer, and the City of Santa Ana harmless from any and all liability, real or alleged, in connection with the performance of work on this project, excepting for liability arising from the sole negligence of the owner, the engineer, or the City of Santa Ana.

**CERTIFICATION OF THE PRIVATE ENGINEER**

The undersigned Civil Engineer hereby certifies that the utility locations (gas, electrical, telephone, private water, CTV, etc.) shown on these plans directly reflect utility company layouts.

\_\_\_\_\_  
(Print Engineer’s Name)    Date

R.C.E. No. \_\_\_\_\_