

**CITY OF VACAVILLE
DEPARTMENT OF PUBLIC WORKS**

CONSTRUCTION STANDARDS

SECTION CS 1

GENERAL

CS 1-01 GENERAL: The City Standard Specifications establishes the minimum values for the design and construction of public improvements. The word “minimum” implies the lowest acceptable limit in design and construction. If a design or construction requirement is not addressed by the Project Plans or by the City Standard Specifications and Standard Drawings, then the appropriate CALTRANS Standard Specification or Standard Plan requirements shall apply.

A. All work within City right-of-way shall be subject to the provisions of Section CS-1, General, of the City Standard Specifications.

B. UNDERGROUND SERVICE ALERT: The Contractor shall notify the appropriate regional notification center for operators of subsurface installations at least 2 working days, but not more than 14 calendar days, prior to commencing any excavation, including but not limited to installation of construction area sign posts. The regional notification centers include but are not limited to the following:

Notification Center	Telephone Number
Underground Service Alert-Northern California (USA)	1-800-227-2600

CS 1-02 CONSTRUCTION AREA TRAFFIC CONTROL DEVICES: The Contractor shall comply with the provisions of Section CS1-02, Construction Area Traffic Control Devices, of the City Standard Specifications for any work performed within the public right of way that is open to public traffic subject to the following requirements specified below:

A. The Contractor shall furnish, install, maintain and remove the appropriate traffic control devices and other warning devices in accordance with the *Manual of Uniform Traffic Control Devices (MUTCD) along with the California Supplements to the MUTCD* and provisions in Section 12, "Construction Area Traffic Control Devices," of the CALTRANS Standard Specifications as modified by Section CS1, General, of the City Standard Specifications *and City approved Traffic Control Plan* prior to performing and through the duration of construction for any work performed within the City right of way that is open to public traffic, and as required by Director of Public Works.

- B. All excavations required to install construction area signs shall be performed by hand methods without the use of power equipment, except that power equipment may be used if it is determined there are no utility facilities in the area of the proposed post holes.

CS 1-03 MAINTAINING TRAFFIC: The Contractor shall comply with the provisions of Section CS1-03, Maintaining Traffic, of the City Standard Specifications for any work performed within the public right of way that is open to public traffic subject to the requirements specified below:

- A. Attention is directed to Sections 7-1.08, "Public Convenience," 7-1.09, "Public Safety," Section 12, "Construction Area Traffic Control Devices," of the CALTRANS Standard Specifications and as modified by the City Construction Standards Section CS1-03, Maintaining Traffic. Nothing in these specifications shall be construed as relieving *the* Contractor from the responsibilities specified in Section 7-1.09 of the Standard Specifications.
- B. The Contractor shall also be responsible to conform to the following requirements:
 - 1. Personal vehicles of the Contractor's employees shall not be parked on the traveled way or shoulders, including any section closed to public traffic.
 - 2. The Contractor shall be responsible to handle traffic through the project area and shall make arrangements to keep the work area clear of parked vehicles.
 - 3. Unless otherwise approved by the Director of Public Works, the Contractor, utilizing a licensed electrical contractor, shall make immediate temporary repairs to any street light/traffic signal conduit and wiring including detector loops damaged during construction. Permanent repairs shall be made within five (5) working days.
 - 4. All striping removed or damaged shall be replaced by the Contractor with like material within 24 hours. However, if approved by the Director of Public Works, striping may be replaced with temporary reflective traffic tape or temporary reflective markers. The Contractor is still responsible for the full replacement as mentioned above.
 - 5. **LANE OR SIDEWALK CLOSURES:** Lane or Sidewalk closures shall be subject to the following requirements:
 - a. The Contractor shall submit and comply with the requirements of a Traffic Control Plan (TCP) in accordance with Section CS1-04, Traffic Control Plan, of the City Standard Specifications.
 - b. During traffic striping operations traffic may be controlled, with either stationary or moving type lane closures.

- c. Traffic Control Devices for sidewalk or lane closures shall remain in place until the work is complete and traffic can safely use the facility.

CS 1-04 TRAFFIC CONTROL PLAN: The Contractor shall prepare and submit a Traffic Control Plan to the Director of Public Works for review and approval when required by the City Engineer/Director of Public Works. The City Engineer/Director of Public Works will make the determination for the requirement of the Traffic Control Plan based upon the nature of the work and the need to address public safety. Traffic Control Plans shall be provided in accordance with the following requirements.

- A. The basic objective for the Traffic Control Plan (TCP) is to permit the Contractor to work within the public right of way efficiently and effectively, while maintaining a safe, uniform flow of traffic. Both construction work and the public must be given equal consideration when developing a traffic control plan. In addition, when considering the public, attention must be given to all aspects of travel through the work zone: i.e., vehicular, bicycle, and pedestrian.
- B. The Contractor shall not commence work within the public right of way until it has received approval of the TCP by the Director of Public Works.
- C. The Contractor shall submit the TCP a minimum of five (5) working days prior to the planned commencement of work. A traffic control plan that does not include all of the required elements listed below will be found incomplete, and returned for revision and re-submittal.
- D. The Traffic Control Plan shall include or conform to the following applicable criteria:
 - 1. Prepared on 24" x 36", 11" x 17" or 8 ½ x 11 sheets.
 - 2. The plan shall be legible; using either ink or computer generated graphics.
 - 3. Indicate Contractors name, address and telephone number. Include name and telephone number of the 24-hour contact person representing the Contractor.
 - 4. Indicate north arrow and scale or NOT TO SCALE (N.T.S.).
 - 5. Show all streets in the work zone vicinity to ensure proper orientation.
 - 6. Show all existing traffic signals and traffic control signs.
 - 7. Show existing striping, pavement markings, painted crosswalks and bike lanes. Include total roadway widths, individual lane widths, bike lane widths, median dimensions, etc.

8. Show existing curbs, gutters, sidewalks, driveways and intersections in the construction work zone including areas affected by taper transition.
9. Indicate posted speed limits.
10. Show location and dimensions of the construction work zone.
11. Show staging area and materials storage area, as appropriate.
12. Indicate locations of construction signs, barricades and delineators (includes cones).
13. Label all taper lengths and widths, delineator spacing and sign spacing. All taper lengths shall be per CALTRANS standards.
14. Use a legend to define all symbols and designate them with MUTCD nomenclature.
15. Show all parking restriction zones and signs, as appropriate.
16. Road closures will require approval from the Director of Public Works. Any road closure also requires notification be provided to the Vacaville Fire and Police Departments, City Coach, Vacaville Sanitary Services, and the applicable school transportation office.
17. Signs and barricades will be required to direct pedestrians through or around the construction work zone and shall be shown on the TCP.
18. Indicate the encroachment permit number or Project Plans identification on the TCP.
19. Indicate the duration of the construction work and subsequent traffic control on the plan.

E. Traffic Control Plan shall be subject to the applicable following General Conditions:

1. All traffic control devices shall conform to the *Manual of Uniform Traffic Control Devices (MUTCD) along with the California Supplements to the MUTCD*.
2. The City, through its designated employees, reserves the right to initiate field changes to assure public safety.
3. Full width of the roadway and all accesses shall reopen at the end of the workday. Hours for lane closure shall be limited to 7:30 a.m. to 4:00 p.m., Monday through Friday excluding designated legal holidays unless otherwise specified in the Traffic Control Plan approval. Certain work areas may require more stringent conditions when determined by the Director of Public Works. The Contractor shall either place backfill and/or provide temporary AC cutback, or steel trench plate to open the full width of the roadway at the end of the workday. Steel trench plate used shall be coated with a non-skid surface in accordance with CALTRANS Standards. Any sidewalk removed and/or damaged shall be replaced per City of Vacaville Standards. All deviations from this plan shall be approved by the

Director of Public Works, or representative, before being implemented.

Designated legal holidays are: January 1st, the third Monday in January, the third Monday in February, the last Monday in May, July 4th, the first Monday in September, November 11th, Thanksgiving Day, the day after Thanksgiving, and December 25th. When a designated legal holiday falls on a Sunday, the following Monday shall be a designated legal holiday. When a designated legal holiday falls on a Saturday, the preceding Friday shall be a designated legal holiday.

4. All traffic control devices shall be removed from view when not in use.
5. Temporary "NO PARKING" signs shall be posted a minimum of 72 hours prior to commencing work when required for the Contractor's work.
6. Access to driveways will be maintained at all times unless other arrangements are made with the effected properties.
7. All flaggers shall be equipped with a hard hat, two-way radios, and C28 "Stop/Slow" paddles. In addition, all flaggers shall be trained in the proper fundamentals of flagging traffic.
8. Any work that disturbs normal traffic signal operations shall be coordinated with the City of Vacaville's Traffic Division, a minimum of 72 hours prior to beginning construction.

CS 1-05 INSPECTION REQUIREMENTS: Any improvement required to be constructed to the City Standard Construction Specifications shall be inspected during construction by the Director of Public Works. Each phase and/or component of construction shall be inspected and approved prior to proceeding to subsequent phases.

- A. Any improvements constructed without inspection as provided above or constructed contrary to the order or instructions of the Director of Public Works will be deemed as not complying with the City Standard Specifications and will not be allowed by the City of Vacaville for acceptance and/or for maintenance purposes. It is the responsibility of the Contractor to arrange the needed inspections and to give the proper notice for the inspections.
- B. The developer or its Contractors shall not store any materials or equipment within the limits of the public right of way commencing from the date that the street is paved and open to public traffic. Additionally, regardless if the street is open to traffic or not, soil, aggregate or sand shall not be stored within the limits of the public right of way after the street has been paved.

C. Improvements which require inspection are only authorized to be constructed under one of the categories listed below:

1. **ENCROACHMENT AND GRADING PERMITS:** When all work called for on the permit is complete, the Contractor may request a final inspection. If the inspector agrees that all phases and/or components of the project are complete, an inspection will be made to identify deficiencies in the work that must be corrected prior to acceptance. Every effort will be made to prepare a fully complete punch list which will consist of an identification of incomplete, defective and corrective work required to be performed by the Contractor prior to acceptance. If, however, additional deficiencies are found after the punch list is prepared, the Contractor shall also correct these items. After all deficiencies have been corrected, the Director of Public Works shall accept the work and authorize return of any bond or deposit due the Contractor.
2. **SUBDIVISIONS:** When all work called for on the Project Plans is complete; the Contractor may request a Preliminary Inspection. If the Inspector agrees that the improvements shown on the Project Plans are complete, and there is no ongoing work that would prevent a complete review of all phases and/or components of the project, a Preliminary Inspection will be made to identify deficiencies in the work that must be corrected prior to the Director of Public Works and the City Engineer granting Preliminary Approval of the public improvements. Every effort will be made to have the punch list be complete. If, however, additional deficiencies are found after the punch list is prepared, the Contractor shall also correct these items. After all deficiencies have been corrected, the Director of Public Works will grant Preliminary Approval of the work according to the terms contained in the Subdivision Agreement and allow the bond value to be reduced to 10% of the original value plus the cost of sealing the streets with a slurry seal in accordance with City Standards. The developer shall continue to be responsible for all the improvements (including maintenance) until acceptance by the City Council has occurred. Two years from the date of Preliminary Approval, or when all lots have been developed, whichever occurs first, all streets shall receive a slurry seal, and a second inspection (Inspection for Acceptance by the City Council) shall be made and a punch list prepared. Prior to the inspection for Acceptance by the City Council, the developer at the City's option shall either slurry seal all the streets within the development in accordance with City Standards or deposit the full cost of the slurry seal with the City, to allow the streets to be sealed with the City's Slurry Seal Program. The Director of Public Works will establish the unit cost per square foot of pavement to be paid by the developer for the full cost of this work. After all deficiencies have been corrected and the Director of Public Works approves the work, the developer will be notified as to the date of final

approval and acceptance by the City Council. The date of acceptance by the City Council will establish the date for commencement of a one year warranty. Prior to the warranty period expiration, another inspection (Warranty Inspection) will be performed and further necessary repairs and/or corrections will be made by the developer. The 10% bond will be released after all repairs and corrections have been completed by the developer,

3. **CITY CONTRACTS** Improvement acceptance for City contracts shall conform to the provisions outlined in the contract documents for each project.

CS 1-06 CONSTRUCTION STAKING: Construction staking will be provided by a licensed civil engineer or land surveyor, hired by the developer to establish the lines and grades required for the completion of the work specified on the plans. The engineer/surveyor shall submit staking note (Cut Sheets) along with point mapping to the Inspector within twenty (24) hours of performing staking. All stakes shall be set on an offset that will be clear of the excavation of the intended facility,

The minimum staking requirements are as follows:

<u>Item</u>	<u>Staking Requirement</u>
Temporary Project Control Points	x and y coordinates and elevation. See Section DS 2-03 E.2.
Rough Grade Stakes for Lot Grading	Provide stakes at all lot corners.
Sanitary Sewer Lines	Manhole invert and 25' intervals along curvilinear alignment and 50' intervals along linear alignment. Stakes shall be set on centerline stationing.
Storm Drain Lines	Catch basin inverts and same as for Sanitary Sewer Lines.
Water Lines	Fitting and valve locations and 50' intervals stakes set on centerline stationing.
Curb Inlets/Field Inlets/Manholes	At pipe, manhole and curb/field inlet invert and finish grade. Two stakes are required for horizontal

	alignment for curb and field inlets
Fire Hydrants	(2) Stakes for horizontal alignment and grade set with centerline stations.
Water Services	(1) Stake offset to face of box location.
Sanitary Sewer Service	(1) Stake offset to center cleanout location.
Air Release Valves	(1) Stake offset to center valve.
Water Main Blow Off Valve	(1) Stake offset to center blow off valve.
Roadway Subgrade	Set stakes to roadway centerline and edge of pavement at 50' intervals, all grade breaks and at 1/4 points on vertical curves.
Top of Aggregate Base Grade	Set stakes at finish rock grade at 50 foot intervals on center of the roadway. For roadways with a raised median island stakes are required for the roadway on each side of the median.
Curb and Gutter	Set stakes at 25' intervals, at BC and EC for all curvilinear alignment and at mid point of curb returns.
Street Lights	(1) Stake to center of pole base.
Retaining/sound walls	50' interval stakes set on centerline stationing. At all top and bottom of steps in the footing and wall.
Street Monuments	(2) Swing ties offset to center of monument