

Section 73 Concrete Curbs and Sidewalks

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4-7301 General

This section covers concrete curbs and sidewalks. For information on the production and transportation of portland cement concrete, see Section 4-90, "Portland Cement Concrete," of the *Construction Manual*.

4-7301 General

For specifications about the construction of concrete curbs and sidewalks, see Section 73, "Concrete Curbs and Sidewalks," of the *Standard Specifications*.

4-7302 Before Work Begins

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During this preliminary review, take the following steps:

- Review the contract for details about the project's concrete curbs and sidewalks, and compare these details with conditions in the field. As appropriate, review sheets A87, A88A, and A88B of the *Standard Plans*.
- Before constructing any curbs, gutters, or sidewalks other than those shown on the plans, review the *Highway Design Manual* to determine the policy. Ensure the curbs, gutters, or sidewalks do the following:
 1. Conform to the current policy of replacing existing facilities
 2. Or, are necessary to comply with previous agreements
 3. Or, are necessary to provide proper drainage
- Discuss the construction operation with the contractor. Determine whether the contractor has considered the public's convenience, a consideration required by Section 7-1.08, "Public Convenience," of the *Standard Specifications* and also by applicable sections of the special provisions. Advise the contractor of any necessary modifications to the operation.
- Make a general check of the layout as staked, including the location of gutter depressions, curb ramps (wheelchair ramps), and driveways. Also review the stakes for accuracy.
- Ensure that an approved grading for the combined aggregate for minor concrete is on file in the project records. Note that any testing of minor concrete is at the resident engineer's discretion. Normally, testing is not necessary for minor concrete produced at a plant with a good history of producing concrete for Caltrans work. For minor concrete from a source that has not been previously used on the project, require the contractor to submit a Certificate of Compliance.
- Examine the subgrade to ensure the following:
 1. The subgrade has been constructed to the proper elevation and cross section. As specified, require the contractor to check the subgrade with a template.

2. The foundation has been watered and compacted. When the subgrade is constructed in a structural layer, the compaction required in such a layer usually applies. When the subgrade is original ground outside of those areas where 95 percent compaction is required, no specific compaction value is required; however, to obtain a stable foundation, a watering and compacting operation is required. Unless the contractor chooses to allow soft or spongy areas to dry before placing concrete, order their removal.
 3. The subgrade is wet immediately before placing concrete.
- Ensure the contractor has implemented appropriate measures for washing out concrete mixer trucks.

4-7303
During the Course
of Work

4-7303 During the Course of Work

Once work begins, take these steps:

- Examine the forms to ensure the following:
 1. The forms are smooth on the side next to the concrete.
 2. They have a true, smooth upper edge.
 3. They are rigid enough to withstand the pressure of fresh concrete without distortion. Order the replacement of forms that will not produce an end product within specified tolerances.
 4. The forms are coated with form oil as specified.
 5. The forms have the specified full depth.
 6. The forms are placed to the lines and grades shown on the control stakes. Also, ensure the adjustment of any unsightly changes in vertical or horizontal alignment. Adjustment from staked grades is sometimes necessary near joints with existing curbs or sidewalks.
- Ensure that gutters will drain. When new curbs are to be joined with existing facilities, check the existing elevations against the planned grades.
- Ensure that curb and sidewalk construction conforms to the contract's "Order of Work" in the special provisions.
- Finished appearance is important and is noticeable by the public. Existing edges of pavement and sidewalks or existing pavement surfaces should not be used directly to establish a grade line for curbs.
- Ensure that all dowels and reinforcements are in place.
- In fixed-form construction, the contractor may choose to use anchor bolts instead of dowels. When the bolts are equivalent to the dowels, approve the use of the bolts.
- Ensure joints are sawed as specified.
- For extruded-form construction, the contractor may choose to use an adhesive instead of dowels. When this option is chosen, ensure the contractor cleans the pavement as specified and uses the required adhesive. Inspect the slipform machine to ensure it meets specifications.
- Inspect the placement of weakened plane and expansion joints to ensure they are constructed as specified.



- During the placement of minor concrete, check temperatures, mixing time, elapsed time, number of revolutions, and penetration. Ensure that load slips, with the required information, are delivered with each load of minor concrete.
- Observe concrete as it is placed. In the daily report, record the reasons for rejecting any concrete and the approximate amount rejected. Ensure the contractor does not allow concrete to segregate while being placed and being compacted in the forms. Stop the operation if the concrete requires patching with grout or mortar. Insist the contractor correct the placing operation.
- Before the forms are removed, ensure the contractor uses the required 3m float to finish the surface.
- Note whether the forms are being removed within the specified time limits. When corrective measures are necessary, advise the contractor, and note such advice in the daily report.
- Ensure the finishing meets specifications, and measure the finished product to ensure it conforms to the required tolerances.
- Ensure the curing complies with one of the specified methods.
- Ensure the contractor does not place concrete on frozen or ice-coated material and protects the concrete after placement according to the specifications.

4-7304 Measurement and Payment

Measure concrete curbs and sidewalks by the cubic meter from the dimensions shown on the plans or by longitudinal field measurement.

To determine pay quantities for curb when minor concrete is paid for by the cubic meter, you may use the table for curb quantity factors (cubic meter/meter) in the *Standard Plans*.

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