

CHAPTER 11

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11.00 Introduction

The project development process is used to deliver Caltrans projects under both the Capital and Maintenance Programs using a contractor. Projects can be of varying scope and duration. Depending on the scope of the project and type of funding involved, it is a process that could take a long time.

The project development process can be broadly classified into five phases: Planning, Environmental, Right of Way, Design and Construction. Based on the scope of the project, the amount of effort in each of these phases will vary. Input from Maintenance is important during each of these phases, irrespective of the project funding source. Internal to Caltrans, Maintenance is the final customer of the project development process.

Maintenance staff should have a general understanding of the project development process and be familiar with the key players involved in the delivery of a project. During each phase of the project, a different group of people will be actively working on the project. However, the one person who will be the lead through various phases of the project is the Project Manager. The Deputy District Director, Maintenance, Region Manager, Area Superintendent, and Maintenance Supervisor should be aware of the name and contact information of the Project Manager for each project in their area.

No matter what program is used to build projects within the State right of way, Maintenance staff must be aware of the projects and be actively involved in all phases. Maintenance staff will ultimately be responsible for maintaining the State highway system unless if agreed upon by a Maintenance Agreement. Note, even with an agreement, Maintenance is still responsible to make sure the system is maintained as stated in the agreement.

11.01 Planning Phase

The planning phase is the first phase in a project after a project is initiated and a preliminary determination is made to pursue the project. Projects are initiated in many ways. The Division of Transportation Planning, in conjunction with the local transportation authority, or a private developer, can initiate a project. Maintenance staff can initiate a project based on the needs of the pavement or roadsides. Also, some projects are initiated to address safety concerns.

Regardless of how the project is initiated, the planning phase is the most critical time for Maintenance to be involved. During this phase, the project scope is developed and is the best time for Maintenance to bring to the attention of the Project Development Team the specific known deficiencies, items needing improvement, things that need to be added within the project limits, and suggestions for project features that could increase Maintenance employee safety in the future. Representatives from Maintenance should participate in Project Development Team meetings to provide valuable input in the development of the project scope.

This is the time to get items added to the PID documents; e.g. PSR, PS, PSSR, so that during the design stage, monies will more likely be available to accomplish the needs identified in the PID.

For example:

Roadside Management Improvement and Safety Items

- Paving of narrow areas.
- Paving gore areas and extending of existing gore paving.
- Pavement under guard rails.
- Treatment under roadside signs.
- Mow strip along fences.

11.02 Environmental Phase

In the environmental phase of the project, the environmental clearances are obtained from various agencies to proceed with the design and construction of the project.

During this phase of the project, all of the environmentally sensitive resources within the project limits are identified. Maintenance staff should become familiar with the location of these resources and should also evaluate the impact of these resources on their routine operations. Based on the resources identified and impact mitigations identified, modifications might be necessary to the design of the facilities. For example, Maintenance staff could request the Design staff to plan for a fence around an environmentally sensitive location as part of a project, so that in the future Maintenance staff would not accidentally disturb a particular area during routine operations once the project is completed.

Maintenance staff should meet with the Project Manager and the design staff during this phase to identify areas within the project limits for which Maintenance needs environmental clearances.

11.03 Right of Way Phase

In the right of way phase, the right of way required to construct the project is obtained. This is also the phase where easements and permits, to enter adjacent private property, are obtained.

During this phase, Maintenance staff needs to make sure they have enough rights of way to perform their routine operations on planned features such as soundwalls, drainage ditches, etc. Any facilities requiring access from outside the State highway right of way should be brought to the attention of the Project Development Team. With adequate lead time, Division of Right of Way staff should be able to obtain the appropriate permits, permanent easements, or additional right of way, so that Maintenance staff can perform their routine activities without trespassing on private property.

11.04 Design Phase

During the design phase, Design staff will prepare the plans, specifications and estimates of the project. If necessary, the District Maintenance Engineering staff will review and interpret the plans and specifications for Maintenance field staff.

Of all the stakeholders involved in a project, Maintenance field employees are most familiar with the existing conditions of the highway. During this phase, it is highly beneficial for Maintenance field and engineering staff to meet periodically with the design staff in the field to review problems or areas of concern within the project limits. For example, poor drainage conditions, which Maintenance is familiar with, may not be obvious when the design staff perform their independent field reviews. Through joint cooperation between Design and Maintenance, problem areas can be identified and corrected during the design Phase.

Also review landscape planting and irrigation plans to make sure they meet the needs of Maintenance as well as the public. A few examples of items to look for:

- Plant materials have been planted following the “Plant Setback and Spacing Guide.”
- Trees should be located outside the Clear Recovery Zone (CRZ) as specified in the Highway Design Manual (HDM). The HDM states, “Selection and location of plants shall be carefully considered to maintain sight distance and clear recovery zone setbacks. Planting shall not interfere with the function of safety features such as shoulders, barriers, guardrail, traffic or regulatory devices, warning and guide signs or with motorists’ view of the road.
- Design should accommodate typical maintenance practices and equipment, e.g., not interfering with pulling hoses, mowing, access needs of maintenance equipment for proposed design, edging and minimizing the need to maintain slope and recovery area

- Planting shall maximize cover (including adequate on center spacing) by the end of the three (3) year plant establishment period.
- Mulch is a temporary weed suppression method until plants fill in.
- Planting and irrigation design shall reflect Caltrans's goal of reduced pesticide use and water use as identified in Governor's Executive Order B-18-12.
- Maximize use of overhead irrigation to enhance safety and maintainability. Whenever possible, include the placement of irrigation mains, wire and laterals away from shoulders to reduce possible damage caused by future construction or vehicles parked on the roadside and allow safer maintenance.
- Trees located in overhead watered groundcover areas must be provided supplemental basin irrigation.

The schedules for most projects allocate time and resources for constructability, maintainability, and safety reviews. Maintenance staff should participate in these reviews for all projects within their areas. Contact the Project Manager to make sure they are aware of your desire to participate.

11.05 Construction Phase

The construction phase of the project is the last phase before Maintenance resumes responsibility for maintaining that section of highway. Although this phase is the last opportunity to make minor modifications to the project, changes outside the scope of the existing contract should be done in a separate contract. In special situations, changes outside the scope of the existing contract may be added but require an approved Director's Order, concurrence of the Director's Order by the Chief, Division of Construction, and contractor agreement to a contract change order.

During this phase, there should be regular interaction between Construction staff and Maintenance staff. The Resident Engineer should be contacted prior to the start of work; Maintenance should be present at the pre- and post-construction meetings, and progress and pre-contract-acceptance reviews. During this phase, the Resident Engineer or the Construction Engineer is the contact for Caltrans. Maintenance staff shall not contact the contractor's staff directly.

The Construction Resident Engineer will obtain concurrence from the appropriate Maintenance Region Manager or Engineer for changes affecting maintenance facilities, lands and buildings, and maintenance activities. Concurrence from the appropriate Maintenance Region Manager or Engineer is required for all change orders affecting the use of maintenance funds.

11.05.1 Pre-Construction Meeting

Construction manual policy requires the Resident Engineer to schedule a meeting with the Maintenance Area Superintendent at the start of construction. The Maintenance Area Superintendent should notify the Region Manager and invite the Maintenance Supervisor, Maintenance Leadworker, Maintenance Stormwater Coordinator, and appropriate special crew superintendent/supervisors (bridge, electrical, landscape, striping etc.) This purpose of this meeting is to:

- Review the Resident Engineer Report of Assignment
- Review the scope of the project
- Discuss contingency planning for traffic management
- Discuss Caltrans' maintenance responsibilities as described in the Construction Manual, Section 3-519 "Maintenance and Protection", and the Maintenance Manual, Volume 1, Section 11-05.2
- Discuss construction activities that could affect adjacent maintenance operations
- Review the site

11.05.2 Maintenance Within the Limits of the Project

On an existing State highway, Maintenance staff will continue to maintain such highway or portions of highway until the contractor takes possession of the highway within the project limits by erecting barricades, construction area signs, or breaking ground. Maintenance of these portions by Caltrans Maintenance staff will resume when the contractor is relieved from maintenance as provided in Section 5-1.38, Maintenance and Protection Relief, of the Standard Specifications, or when the contract is accepted by the State as provided in Section 5-1.46, Final Inspection and Contract Acceptance, of the Standard Specifications.

When the project consists of widening the existing highway pavement or roadbed, the contractor may be restricted in their operations to a portion of the width of the roadway. In such cases, routine maintenance of the balance of the width shall continue to be the responsibility of Caltrans. However, any maintenance within the project limits should be performed in cooperation with the contractor's operations. The Resident Engineer should be notified of the routine maintenance operations within the project limits. The Resident Engineer in turn informs the contractor.

There might be sections of highway facilities that are outside of the actual areas of planned work where no alterations, modifications, or replacement to these facilities are to be done under contract. In such cases, maintenance is the responsibility of Maintenance staff, except for repair of damage due to the contractor's operations. Any State facilities that are damaged due to contractor's operations shall be repaired or replaced by the contractor at their expense

Within the project limits, any damage caused by the traveling public to the State facilities that are being worked on under the project shall be fixed by the contractor. The contractor will be responsible to collect damage expenses from the responsible party except as provided in Section 5-1.39, Damage Repair and Restoration of the Standard Specifications.

Every effort should be made by Maintenance staff to perform routine maintenance operations within the project limits before the contractor takes over the responsibility of the facility.

11.05.3 Projects in Suspension

A project could be suspended from time to time, mostly during winter months. Before the project is placed under winter suspension, the Resident Engineer will make sure the project is prepared for winter suspension and prepare a written formal letter of suspension. Once suspended, Maintenance staff shall perform all required routine maintenance within the project limits. In the event a project is not suspended for the winter, snow plowing details still need to be worked out between the Resident Engineer and Maintenance forces.

11.05.4 Final Inspection of the Project

When the project nears completion, the Resident Engineer or Permit Inspector should contact the Region Manager, Area Superintendent, or Maintenance Supervisor to arrange a final field review of the project. Should this review not happen, the Area Superintendent shall contact the Region Manager and the Resident Engineer or Permit Inspector to conduct a review of the project. This important review should be held when the project nears 90 percent completion. This is the period when a “punch list” is prepared to address any outstanding work.

The purpose of this joint review is to discuss:

- Operations of the facility.
- Features requiring special attention.
- The beginning date of any guarantee period and who to contact for warranty work.
- Manufacturer’s warranties and service instructions, if any.
- Work that may be required after contract acceptance.
- Features that should be handled differently on future projects. These features will be noted in a comprehensive letter from District Construction to District Design that will give suggestions for improving the design of future projects.

11.05.5 Post-Construction Evaluation

After the acceptance of the project the Project Manager or the Resident Engineer should call for a Post-Construction Evaluation meeting. Maintenance forces should attend this meeting to provide input on their experiences with the project. This would also be a good occasion to make sure all warranty documents, service instructions, as-built plans and other documents are received from Construction. If a Post-Construction Evaluation meeting is not held, the Area Superintendent must meet with the Resident Engineer and make sure all the required documents are received.

11.06 Permit Projects

Generally when projects are built under a permit, the Caltrans representative on the project will be the Permits Inspector. Caltrans staff will have minimum involvement in the Planning, Environmental, Right of Way, and Design Phases. However, prior to Caltrans approval of the permit, staff from various divisions will review the project design.

11.07 Resources

As indicated at the beginning of this chapter, the project development process could take a long time and extensive involvement. The time spent on efforts related to a project could end up being substantial over the life of the project. Maintenance staff should talk to the Project Manager and get the appropriate E-FIS Project ID's to charge their time spent on the project. Maintenance staff should provide assistance to a project only when a valid E-FIS Project ID is made available. This is not workload that should be absorbed by Maintenance funded resources.