

Workplan Standards Guide for the Delivery of Capital Projects Release 10.2

California Department of Transportation
Headquarters Division of Project Management
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Workplan Standards Guide for the Delivery of Capital Projects

Headquarters Division of Project Management

Note to User: Although every effort was made at the time of publication to ensure the accuracy of our content, some modifications or updates may have occurred since the release of this document. Additionally the guidance list provided is not to be treated as an all inclusive reference list, but rather a starting point for further investigation. If you should have further questions regarding the content of this document, please contact the Division of Project Management for clarification.

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Foreword

The California Department of Transportation (Department), Division of Project Management in Headquarters updates the Workplan Standards Guide for the Delivery of Capital Projects.

The Workplan Standards Guide for the Delivery of Capital Projects, Release 10.2, January 2012 supersedes all previous releases of the Work Breakdown Structure (WBS) and Workplan Standards Guide (WSG). This release (10.2) is a maintenance update incorporating new terminology and business processes introduced via the Department's new Enterprise Resource Planning Financial Infrastructure (E-FIS) as well as changes approved by the WSG Committee. WBS Tasks or Milestones were not added or deleted in this revision. As a result of business process changes resulting from the implementation of E-FIS, "Standard Cost Centers Associated with WBS Elements" (Part III-Section E) and "The Standard Cost Center Guide", (formerly Part V) have been removed from this guide. Changes driven by the Project Resource and Schedule Management (PRSM) System are not included in this revision. For a complete listing of all the text changes to this guide please refer to Appendix A of this Guide.

The Workplan Standards Guide (WSG) Committee reviews and maintains the content published in the WBS and the Workplan Standards Guide. Representatives meet on a monthly basis to discuss any changes prior to approval and introduction to the Guide. Request for Changes to the WSG can be submitted by a Caltrans employee at:

<http://sv06web1.dot.ca.gov/ppm/pmsu/apps/wsgHQ/wsgims.cfm>.

This version of the Workplan Standards Guide for the Delivery of Capital Projects, Release 10.2, will be effective as of January 2012. Periodic updates (revisions) will be displayed in the on-line version on the Intranet (internal) website:

<http://pd.dot.ca.gov/pm/ProjectOffice/WorkplanStandards/StandardsHome.asp>

OR the Internet (external) website at: <http://www.dot.ca.gov/hq/projmgmt/guidance.htm>.

A bound, hard copy of this Guide is no longer produced and distributed. Copies, or portions, can be downloaded from the web site and printed locally.

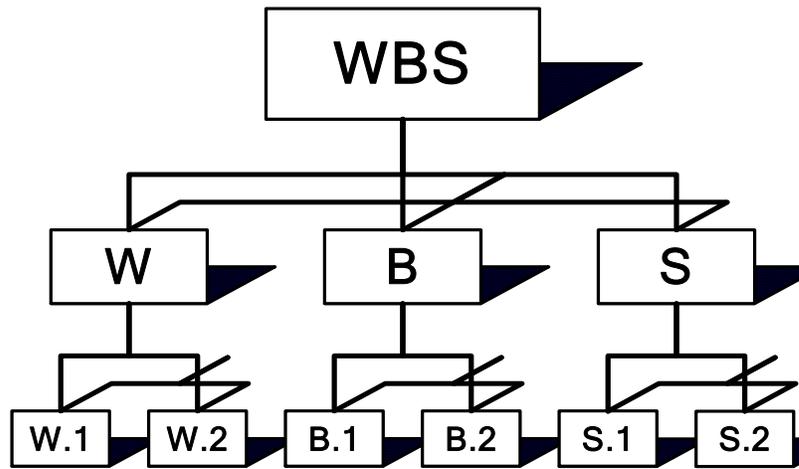
This new guide has been segregated into the following Parts: Part I, WBS Basis; Part II, WBS Definitions; Part III, WBS Appendices; Part IV, Milestones.

Special Thanks to the WSG 2011-2012 Committee members for their contribution in development of this revision:

Nigel Blampied, Eric Blankenburg, Deborah Hatchett, Dave Casey, Bob Davies, Mary Frederick, Esmail Hadjhabib, Reza Hajjari, Bob Hull, Philip Kuo, Said Ismail, Laura Luce, Charlie Olson, Kim Schutz, Rich Weaver, Harlan Woo

Sincerely,
Mohammad U Sadiq,
WSG Committee Chair

Part I WBS BASIS



INTRODUCTION

History and Background

In the early 1990's, several task forces and PEER Reviews recommended that the Department establish a modern project management process and develop the tools to help improve the Department's project delivery. Caltrans issued the first version of the Department's Capital Outlay Support (COS) Standard Work Breakdown Structure (WBS) in July 1994.

Subsequent updates to the WBS were published in June 1995 (WBS Release 2.0), in May 1996 (WBS Release 3.0), in May 1999 (WBS Release 4.0), June 2000 (WBS Release 5.0), in April 2001 (WBS Release 5.1), in August 2002 (WBS Release 6.0), in July 2003 (WBS Release 6.1), in July 2004 (WBS Release 6.2) and in September 2005 (WBS Release 7.0), July 2006 (WBS 8.0), July 2007 (WBS 9.0), August 2007 (WBS 9.1), August 2008 (WBS 10.0) and June 2009 (WBS 10.1).

Throughout this document references to capital projects specifically mean the Capital Outlay Support.

Purpose

The purpose of this Guide is to provide a statewide standard, information regarding the Project Delivery Workplan Standards, Release 10.2, and its use to plan and control the work content of capital projects.

It also presents guidelines for preparing and understanding, the WBS for Capital Projects.

WHAT IS THE WBS?

Definition

Successful project management depends in a large degree on the project manager's ability to specify the work content of projects in terms of its products (deliverables) and activities. One of the principal tools for planning and controlling the work content is the WBS.

Work Breakdown Structure (WBS) – A WBS is a product-oriented grouping of project elements that organizes and defines the total scope of the project. Each descending level represents an increasingly detailed definition of a project component. Project components may be products or services.

The WBS work elements are discrete components of the total work. They represent only work and are largely independent of schedule, sequence, precedence, cost, resources and quality. A unique, numerical identifier is attached to each work element so that computers can recognize it. Caltrans uses two distinct forms of WBS: Project WBS (PWBS) which is used for individual projects and employs only work elements at level 5 and below and the Standard WBS (SWBS) which contains all the standard work elements that could be required to complete a Caltrans capital project.

Project Work Breakdown Structure (PWBS) – The project WBS defines the total scope of a particular project in a hierarchal format. Although it describes the same project scope as the corresponding scope statement, it is usually much more precise and detailed. It is the foundation of a project schedule and project resource estimates, and is used to build the project workplan. The elements at the bottom of the hierarchy are called Work Packages (WPs). A WP is a “deliverable at the lowest level of the WBS”. Work Packages may be divided into activities. Thus, the work contents of the project can be viewed as the set of WPs obtained by applying the WBS.

Standard Work Breakdown Structure (SWBS) – The SWBS contains all the work elements, descriptions and identifiers that a Caltrans capital project can contain. No PWBS is likely to contain all of the SWBS work elements.

The SWBS contains only work and is completely independent of schedule, milestones, sequence, precedence, cost, resources, quality and anything else except the work definition and “identifier”. It is used to standardize the work elements and breakdown structure used in capital projects throughout the State so that computers can analyze project data.

A standard WBS has many benefits including:

- Consistency of information needed to manage a statewide work force.
- More effective communication relative to project level work throughout the Department.
- Ease of data transfer, such as the sharing of project “templates” between and within districts.
- Decreased “culture shock” when employees transfer to different locations and work assignments.

Structure of WBS

The structure of WBS is defined by the nature of the levels within the WBS hierarchy. The SWBS reflects the criteria applied to the hierarchical decomposition of each work element into its parts. The top levels represent the project groupings, by programs, or by Districts responsible for their delivery. Lower levels represent project and project decomposition according to a number of criteria, such as product components, organizational functions, or life-cycle stages.

The highest level of the Project Delivery Standard WBS identifies the total Caltrans work program. Lower levels describe “program” categories or decomposition according to criteria for managing groups of projects. Still lower levels break down projects into major components (deliverables). Each descending level represents an increasingly detailed description of the level above it. The subdivision continues until the described work element is small enough to be adequately scheduled, resourced, monitored, and managed.

A main principle is that one level is completely described in further detail by the level below it. Each level is a summary of the work in its lower levels. Therefore, it provides for a progressively detailed definition of work elements for all levels of review, such as staff, functional manager, project manager, or program manager. The WBS facilitates summary reporting at a variety of levels.

The coding structure or the numbering scheme that goes along with the WBS allows staff to charge the time spent on capital projects to the actual tasks they were performing. The same set of codes for tasks is used statewide for all capital projects. Proper time charging allows managers to track how much projects actually cost to produce. Over time, these proper charges for past projects allow more accurate estimating for new projects, as well as better predictions of when the resources are needed to produce a product. **Understanding of the WBS is important to all staff since proper time charging is the responsibility of all staff.**

Although an attempt was made to place the activities generally in the order in which they may occur, the numeric order of the coding is not necessarily the chronological order that they are executed. There may be an overlap of time between the start dates of activities. Each project manager may vary the order in which a project is developed.

The WBS, the coding structure and the definitions of each activity are not meant to be a blueprint for doing a project. The actual process, governing policies and procedures are defined in other manuals. Those manuals, memos, and guidelines should be consulted for questions about how to create a workplan or manage a project.

For your convenience, the Appendix A in Part III of this guide, contains a list of changes made from version 10.1 to version 10.2, the Appendix B, contains a list of Level 4 and 5 tasks sorted by Level 4. Appendix C contains the same list sorted by Level 5 numeric order with the respective lead COS Division. Appendix D shows all WBS coding to be used in Timesheets, and Appendix E is a list of all WBS elements

Level of Detail

The planning component of a project involves estimating the time and resources required to carry out its work content or to produce the identified work packages in the project WBS. This is where decisions are made as to the level of detail in the project schedule needed for effective management.

Generally, estimates based on smaller work packages are more accurate. When work is divided into smaller, homogeneous “chunks”, it helps with focusing on the activities involved and provides better information for estimating. Additionally, when estimates are based on smaller work packages, errors in estimating tend to be less just because of the nature of statistical methods.

For appropriate management of a project, the project manager should insure that each Work Package WP can be assigned to a single person or organizational unit, and that this unit has the ability to deal with all aspects of that WP.

In selecting a level of detail for project WBS, project manager should balance the need to control project deliverables and measuring performance with time spent measuring and reporting progress that results in an increase in nonproductive time.

The following are general rules for decomposing projects to their detailed components:¹

- Is there a need to improve the accuracy of the duration or resource requirement (support cost) estimates?
- Is more than one individual responsible for the work contents?
- Does the work content include more than one type of activity (skill/function)?
- Is there a need to know precisely the timing of activities internal to the work package?
- Is there a need to estimate activity resources internal to the work package?
- Are there any dependencies between the internal activities and other work packages? Or are all activities linear within a work package? Ensure that the schedule allows adequate time for all efforts required to produce and finalize all deliverables in each element.
- Are there any significant time breaks in the execution of the internal activities?
- Do resource requirements within the work package change over time?
- Do the prerequisites differ among the internal activities?
- Are there any acceptance criteria applicable before the completion of the entire work package?
- Are there any specific risks that require focused attention?

¹ Tzvi Raz and Shlomo Globerson, “Effective Sizing and Content Definition of Work Packages,” *Project Management Journal*, 29-4 (December 1998), 17

STANDARD TEMPLATE (LEVELS OF THE WBS)

In order to facilitate summary reporting of work done for projects, the WBS contains several levels of breakdown of the work, starting with Level Ø. Each succeeding level breaks down our work into component parts. Each level represents a summary of the work below it and can be the basis for reporting that gets as detailed as needed.

A graphic representation of the WBS Levels Ø through 5 is shown on the page 8 and may be helpful to summarize the following Levels discussion.

Level Ø - Department Level

This top level of the WBS represents all the work that the Department is charged to perform by the Legislature.

Level 1 - District Level

This level represents all scheduled work performed by a specific charge district. There are twelve districts (1 through 12) and therefore twelve components to this level. The primary two digits of the Project Identifier represent the charge district. The “charge district” is the organizational entity that receives the resources for the work.

Level 2 - Program Level

Level 2 is used to separate the work by major program. Currently, the WBS is only developed for the Capital Project Program (that is, transportation/highway projects), and the Transportation Planning Program. This level is not represented separately in The Department’s time reporting system.

Level 3 - Project Level

This level represents the work scheduled for an individual capital project. Capital projects are identified currently by a 10 digit number called the Project Identifier (PI) (Formerly known as the expenditure authorization (EA)). The first two digits of the Project Identifier represent the Charge District, the third and fourth digit represent the year the Project was created in the financial system (EFIS). The fifth through tenth digit represent a randomly system generated number.

Level 4 - Summary Task Level

Level 4 breaks a capital project into a maximum of six summary tasks that more closely conform to the requirements of Senate Bill 45 (SB45). Throughout this guide we have focused only on the four summary tasks associated with the COS Program: Project Approval and Environmental Document (PA&ED), Plans, Specifications and Estimates (PS&E), Right of Way (R/W) and Construction (CON). Some projects may not need all tasks, however, no capital project will use more than these. Presently these major tasks do not equate to the Project Component, but this will change with the implementation of PRSM. Presently the terms Component and Phase are used interchangeably at Caltrans and throughout this Guide. See SB45 Components and corresponding WBS Code as shown in Table 1.

Level 5 - the Major Task Level

This level is a breakout of the summary work elements and represents the minimum level of detail required to plan, schedule, and manage capital projects. The code structure for this level is a three-digit number. The Level 5 code number must be shown in the Staff Central time reporting system in the “SubObject” field for any work done on a capital project.

Table 1: SB45 PROJECT COMPONENTS AND WBS CODES

Phase	SB45 Component	Component Title	WBS Codes
K	NO	Project Initiation (PID)	100.05, 150
0	YES	Completion of Project Approval and Environmental Document(PA&ED)	100.10, 160, 165, 170, 175, 180
1	YES	Preparation of Plans, Specifications, and Estimates (PS&E)	100.15, 185, 205, 230, 235, 240, 250, 255, 260 & 265
2	YES	Acquisitions of Right of Way (R/W)	100.25, 195, 200, 220, 225, 245 & 300
3	YES	Construction Management and engineering, including surveys and inspection (CON)	100.20, 270, 275, 285, 290, & 295

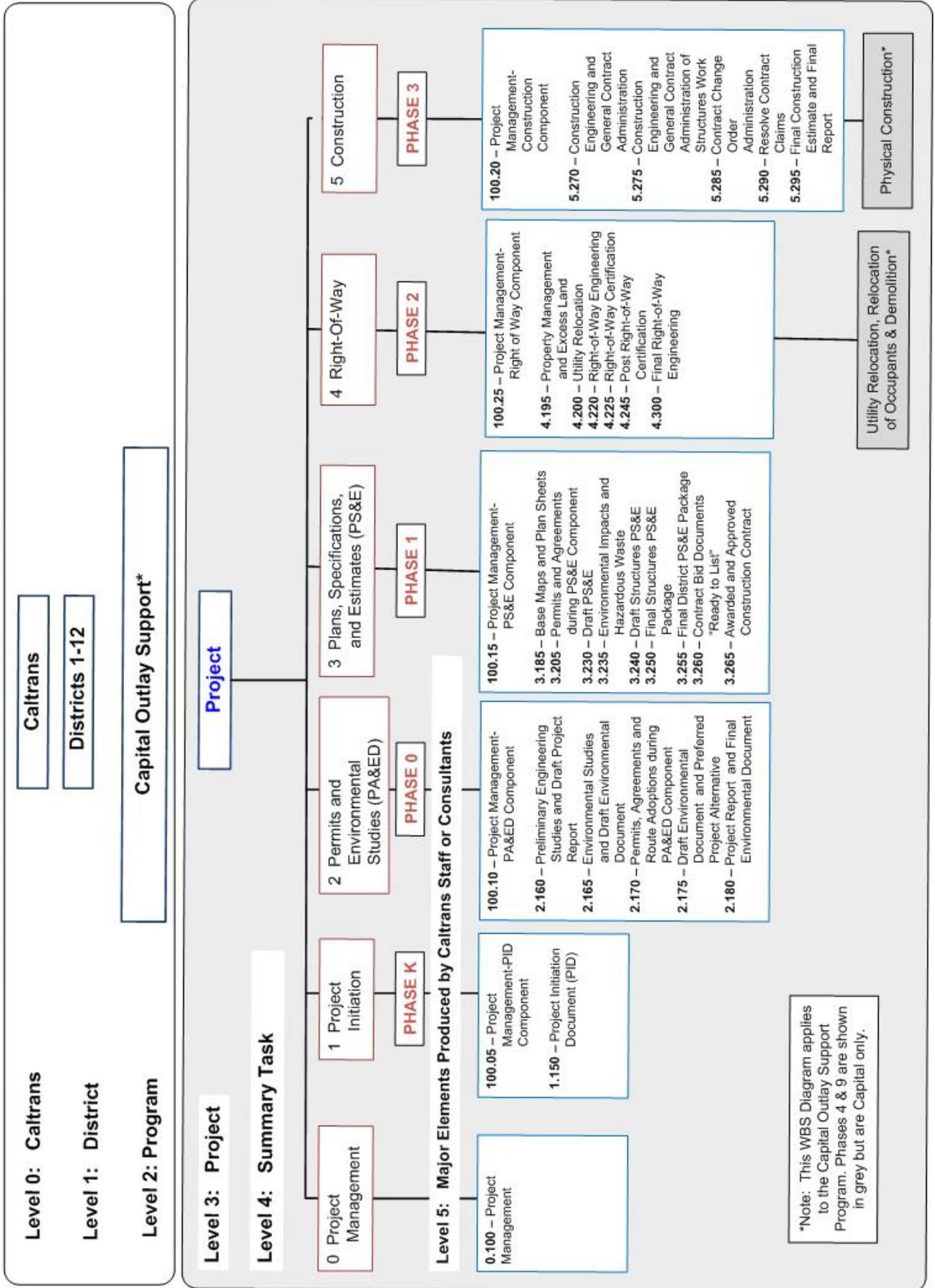
Level 6, 7, and 8 - the Task and Activity Levels

The identifiers for Level 6, 7, and 8 are 2-digit numeric codes. Level 6, 7, and 8 contain tasks and activities when the Level 5 Major work elements do not contain sufficient detail to plan, schedule and manage the work. Some Level 6 activities may not need a further breakdown to Level 7 therefore, so not all Level 6 activities have a Level 7. The same is true of Level 7 activities, so that not all Level 7 activities have a Level 8.

The WBS for capital projects has been standardized to this level of detail for statewide reporting purposes at this time. There is no standardization lower than Level 7 for most work packages, and Level 8 for a few work packages. However, further breakdowns may be used if needed and may be standardized at some future date.

A complete listing of WBS work elements for Levels 5, 6, 7, and 8 is provided in Appendix D of this guide.

Work Breakdown Structure Diagram



PLAN THE WORK (RULES FOR USAGE OF WBS)

Determine Level of Detail for Your Project WBS

Each level is a complete summary of work below. As work is broken into increasing levels of detail, each level must completely include the total work scope of the WBS element at the next higher level. For instance, the sum of the Level 7 products represents the total work needed to accomplish the superior Level 6 product.

A project manager and functional manager may elect to schedule and monitor portions of a project to a level lower than 5. However, if any of the work of a Level 5 task is scheduled to Level 6, all the work done in that Level 5 task must be scheduled to Level 6. Each Level 5 task must be a complete summary of the Level 6 tasks that will be done on that project. The same is true for scheduling below Level 6.

If this breakdown is not followed, then the summary rollup features provided by this hierarchical system will not work and actual effort spent might be under-reported or over-reported. See previous section on Level of Detail for some general guidelines in preparing your project WBS.

Network Construction (Logic Diagram)

Work packages are, by definition, the smallest manageable work elements of the project. The building of your project network logic consists of developing dependencies between project WPs that results in a coherent project schedule.

Each project WP has internal activities that are the responsibility of the task manager. If dependencies among WP activities cross work package (products) boundaries, then the construction of the project network become more complex and the accuracy of the WBS may be impaired. In general, activities that are interdependent should be assigned to the same WP. This will allow for easier network and workable schedule.

One way of achieving independent WPs in your network may be by decomposing them further until each WP includes either a single well-defined activity or a small number of tightly interrelated activities.

To establish an effective and manageable project schedule, developing the right work packages is the key. Here are some important attributes for the right work package for a project:²

1. One clear accomplishment (deliverable)
2. One owner
3. Easy to identify resources for its completion
4. Bounded
5. Easy to assess quality
6. Unique

For example, if sub-products of Preliminary Engineering Studies (WBS 160) are dependent on (i.e. have supplier/user relationship) sub-products of Preliminary Environmental Studies for DED.

(WBS 165), then we should define separate WPs (sub-products at Level 6) for each of those subproducts. This means that our WBS should be defined at Level 6 to be effective.

Estimate Project Support Costs (SB45 Requirements)

In 1997 the California State Legislature passed SB45. This amended the rules governing the

² Tzvi Raz and Shlomo Globerson, "Effective Sizing and Content Definition of Work Packages," *Project Management Journal*, 29-4 (December 1998), 17

programming of State transportation projects. It became law as Chapter 622 of the Statutes of 1997.

This section introduces the Program Evaluation and Review Technique (PERT) method for estimating project support costs based on project WBS elements, to address two of the changes brought about by SB45:

- A. Support costs must now be listed in the STIP in four “components”.
 1. Completion of all permits and environmental studies
 2. Preparation of plans, specifications and estimates
 3. The acquisition of rights-of-way
 4. Construction management and engineering, including surveys and inspection

- B. The total of the combined PA&ED and PS&E support costs must be within 20 percent of the combined amount of those two components listed in the STIP. If the final cost is more than 120 percent of the estimate, the difference is deducted from the future programming capacity of the agency that programmed the project.

This means that project managers must be confident that the numbers in the STIP are accurate to within 20 percent. PERT is a tool that can be used to achieve this level of confidence.

Principles of PERT

The Program Evaluation and Review Technique (PERT) were developed in 1958 as a tool for estimating the cost and schedule of nuclear submarines. It is based on three principles:

- A. An expert’s estimate of the cost of a task that takes one day to complete is likely to be more accurate than their estimate of a task that takes a year to complete. The longer and larger the task, the more difficult it is to visualize the effort required.
- B. 95% percent of the area under a “normal” distribution curve lies within two standard deviations of the mean.
- C. Given several independent variables (a, b, c, ... n), each with its own standard deviation, ($\sigma_a, \sigma_b, \sigma_c \dots \sigma_n$), the standard deviation of (a+b+c+ ... +n), is the square root of the sum of the squares of the standard deviations $\sigma_{(a+b+c+\dots+n)} = (\sigma_a^2 + \sigma_b^2 + \sigma_c^2 + \dots \sigma_n^2)^{0.5}$.

PERT Procedure

PERT may be used for estimating project costs or schedules. The PERT process is as follows.

- A. Establish a WBS for the project.
- B. For each lowest-level work package in the WBS, assemble a team of people who have the greatest experience in producing that type of package.
- C. Have each team member develop three estimates for the particular package:
 1. An optimistic estimate (o): The lowest credible cost or schedule assuming that everything goes right.
 2. A most-likely estimate (m): The team member’s best guess of the actual outcome.
 3. A pessimistic estimate (p): The highest credible cost or schedule, assuming that virtually everything goes wrong, but that the team continues working on the project.³
- D. Take the lowest (o), the highest (p) and the average (m).
- E. The average estimated cost or schedule of the work package is (o+4m+p)/6.

³ If the team stops working on the project, the project will never finish and the highest credible schedule is infinite. For estimating purposes, one must assume that the team continues to work on the project.

- F. The standard deviation for the work package is $\sigma_{wp} = (p-o)/4$.⁴
- G. The standard deviation of the project is $\sigma_{project} = (\sigma_{wp1}^2 + \sigma_{wp2}^2 + \sigma_{wp3}^2 + \dots + \sigma_{wpn}^2)^{0.5}$. If one is estimating the schedule, *wp1* through *wpn* are the work packages on the critical path. For costs, *wp1* through *wpn* are all the work packages at the lowest level of the WBS.

How to use PERT to estimate support costs on a Capital Project (An Example)

See example worksheets on the following pages.

These activities should be performed for each STIP project.

- A. For each Level 5 work package in the standard WBS, assemble a three-person team of specialists. This team will normally consist of the Functional Manager, the Task Manager and a third person that is an expert in producing the work package. If the Functional Manager doubles as Task Manager, appoint two experts.
- B. Have each team member develop three estimates for the particular package:
 1. An optimistic estimate (o): The lowest credible number of person-hours to complete the work package, assuming that everything goes right.
 2. A most-likely estimate (m): The team member's best guess of the number of person-hours to complete the work package.
 3. A pessimistic estimate (p): The highest credible number of person-hours to complete the work package, assuming that virtually everything goes wrong.
- C. Enter the estimates into the SB45 support cost estimate.
- D. The spreadsheet is set to calculate an upper and lower confidence limit, as a percentage of the project estimate.
- E. If the upper limit is greater than 120 percent or the lower limit is less than 80 percent of the project's estimates refine part of the WBS as follows.
 1. Select the Level 5 element that has the largest standard deviation.
 2. For that element repeat steps 1 through 5, using level 6 of the standard WBS.
- F. Continue the process with lower levels of the WBS until the upper limit is less than 120 percent and the lower limit is more than 80 percent. You can now be as confident that the project estimate accurate within 20 percent.
- G. Enter the hours into scheduling tool you are using (e.g. XPM). The scheduling software (e.g. XPM) will calculate a dollar estimate based upon your hours.
- H. Instruct all employees working on the project to charge their time to the WBS elements that have been entered into the schedule.
- I. Keep regular records of actual hourly expenditures and compare them to the estimates. This will alert you to work that is taking more effort than anticipated and help you to focus attention on the most significant items. It will also improve your estimating ability in the future.

⁴ Derived from the principle that 95% of events occur within two standard deviations of the mean.

SB45 Support Cost Estimate Worksheet (Page 1)																
Project Description:																
Date:																
Project Manager:																
WBS Estimators Level 5	Description	Estimator 1			Estimator 2			Estimator 3			Combination			PERT Expected Value	Standard Deviation for work package	Standard Deviation Squared
		Lowest Credible Hours (o)	Most Probable Hours (m)	Highest Credible Hours (p)	Lowest Credible Hours (o)	Most Probable Hours (m)	Highest Credible Hours (p)	Lowest Credible Hours (o)	Most Probable Hours (m)	Highest Credible Hours (p)	Lowest Credible Hours (o)	Most Probable Hours (m)	Highest Credible Hours (p)			
100	Project Management	41	48	121	10	79	95	22	64	83	24	64	100	63.11	18.83	354.69
150	Project Initiation Document (PID)	30	43	116	19	65	96	23	76	88	24	61	100	61.56	19.00	361.00
160	Perform Preliminary Engineering Studies and Prepare Draft Project Report	47	80	109	19	76	96	17	75	93	28	77	99	72.50	17.92	321.01
165	Perform Environmental Studies and Prepare DED	12	80	110	25	61	94	22	77	109	20	73	104	69.11	21.17	448.03
170	Permits, Agreements and Route Adoptions during PA&ED Component	49	74	97	22	79	98	23	73	110	31	75	102	72.39	17.58	309.17
175	Grulate DED and Select Preferred Project Alternative	34	78	101	22	54	99	24	65	101	27	66	100	64.94	18.42	339.17
180	Prepare and Approve Project Report and Final ED	45	78	97	12	69	91	31	73	115	29	73	101	70.61	17.92	321.01
185	Prepare Base maps and Plan Sheets	48	49	108	17	67	89	31	47	96	32	54	98	57.83	16.42	269.51
205	Permits and Agreements during PS&E Component	39	57	110	25	73	98	29	44	115	31	58	108	61.78	19.17	367.36
230	Draft PS & E	31	69	87	11	60	94	28	42	86	23	57	89	56.72	16.42	269.51
235	Mitigate Environmental Impacts and Clean-up Hazardous Waste	16	70	115	14	65	95	26	40	113	19	58	108	59.94	22.25	495.06
240	Draft Structures PS&E	35	41	81	24	72	91	21	75	103	27	63	92	61.50	16.25	264.06
250	Final Structures PS&E package	31	68	121	14	85	88	19	41	96	21	65	102	63.61	20.08	403.34
255	Grulate, Review and Prepare Final District PS&E Package	25	66	95	23	69	93	27	42	105	25	59	98	59.78	18.17	330.03
260	Contract Bid Documents "Ready to List"	50	68	86	10	61	90	29	64	107	30	64	94	63.56	16.17	261.36
265	Awarded and Approved Construction Contract	36	72	127	11	67	97	17	74	101	21	71	108	68.94	21.75	473.06
195	R/W Property Management and Excess Land	42	50	120	14	57	90	31	67	104	29	58	105	60.94	18.92	357.84
200	Utility Relocation	46	52	95	19	81	94	17	65	87	27	66	92	63.89	16.17	261.36
220	R/W Engineering	22	73	94	17	54	97	26	41	85	22	56	92	56.28	17.58	309.17
225	Obtain R/W Interests for Project R/W Certificates	45	40	103	25	83	95	30	53	116	33	59	105	62.11	17.83	318.03
245	Post R/W Certificate Work	14	41	108	15	82	88	26	73	100	18	65	99	63.06	20.08	403.34
300	Final R/W Engineering	41	61	129	24	53	93	19	64	88	28	59	103	61.44	18.83	354.69
270	Construction Engineering and General Contract Administration	30	62	102	24	71	96	31	41	88	28	58	95	59.28	16.75	280.56
275	Construction Engineering and General Contract Administration of Structures Work	29	72	87	25	63	96	32	59	70	29	65	84	61.94	13.92	193.67
285	Contract Change Order Administration	16	50	107	12	65	96	23	62	87	17	59	97	58.28	19.92	396.67
290	Resolve Contract Claims	49	52	92	20	58	96	21	67	116	30	59	101	61.22	17.83	318.03
295	Accept Contract, Prepare Final Construction Estimate and Prepare Final Report	46	62	125	11	55	95	33	43	95	30	53	105	58.06	18.75	351.56
Totals:													1694.39	494.08	9132.31	

PERT Estimate:	1694.39
Project Standard Deviation (Hours):	95.56
Project highest credible hours:	1886
Project lowest credible hours:	1503
Upper confidence limit, as % of estimate:	111.28%
Lower confidence limit, as % of estimate:	88.72%

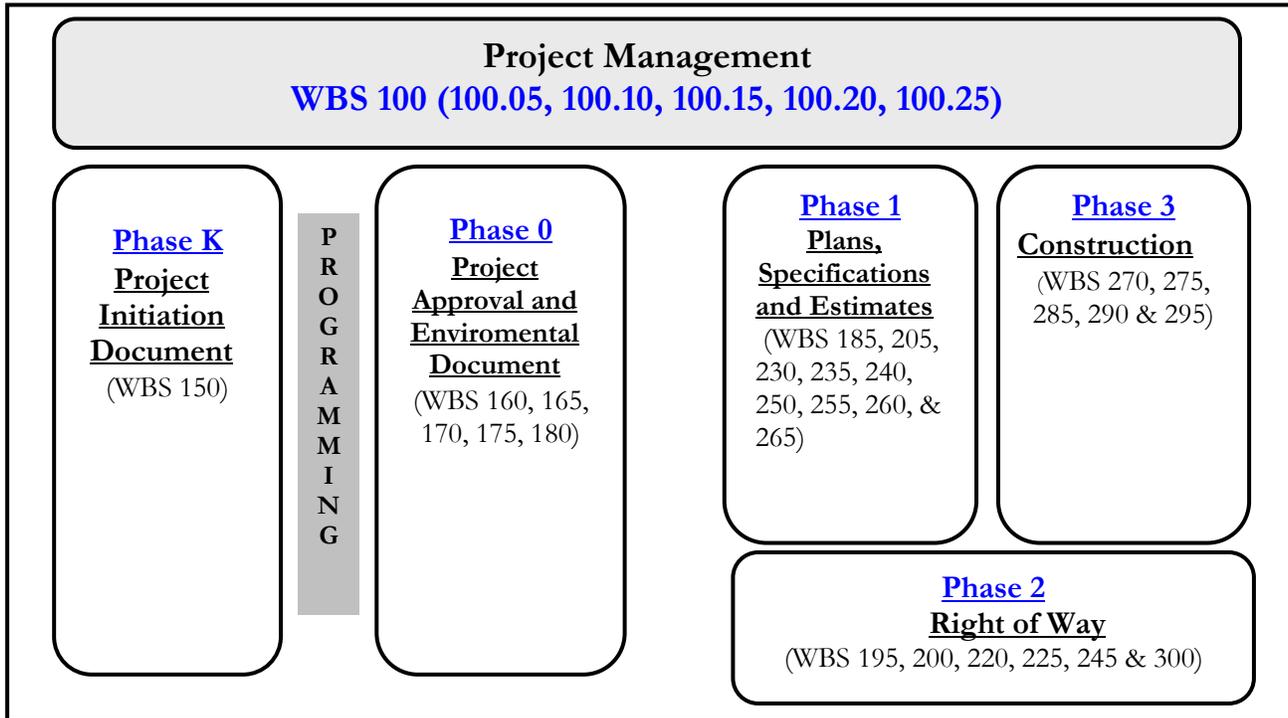
Figure 1 - SB45 Support Cost Estimate Worksheet (page 1)

SB45 Support Cost Estimate Worksheet (page 2)

Project No.		Description:		
Project Manager:		Date:		
WBS Level 5	Description	Estimators		
		# 1	# 2	# 3
100	Project Management			
150	Develop Project Initiation Document (PID)			
160	Perform Preliminary Engineering Studies and Prepare Draft Project Report			
165	Perform Environmental Studies and Prepare Draft Environmental Document			
170	Permits, Agreements and Route Adoptions during PA&ED Component			
175	Circulate Draft Environmental Document and Select Preferred Project Alternative Identification			
180	Prepare and Approve Project Report and Final Environmental Document			
185	Prepare Base Maps and Plan Sheets during PS&E Development			
195	Right of Way Property Management and Excess Land			
200	Utility Relocation			
205	Permits and Agreements during PS&E Component			
220	Right of Way Engineering			
225	Obtain Right of Way Interests for Project Right of Way Certification			
230	Prepare Draft PS&E			
235	Mitigate Environmental Impacts and Clean Up Hazardous Waste			
240	Draft Structures PS&E			
245	Post Right of Way Certification Work			
250	Final Structures PS&E Package			
255	Circulate/ Review/ and Prepare Final District PS&E Package			
260	Contract Bid Documents "Ready to List"			
265	Awarded and Approved Construction Contract			
270	Construction Engineering and General Contract Administration			
275	Construction Engineering and General Contract Administration Of Structures Work			
285	Contract Change Order Administration			
290	Resolve Contract Claims			
295	Accept Contract/ Prepare Final Construction Estimate, and Prepare Final Report			
300	Final Right of Way Engineering			

Figure 2 - SB45 Support Cost Estimate Worksheet (page 2)

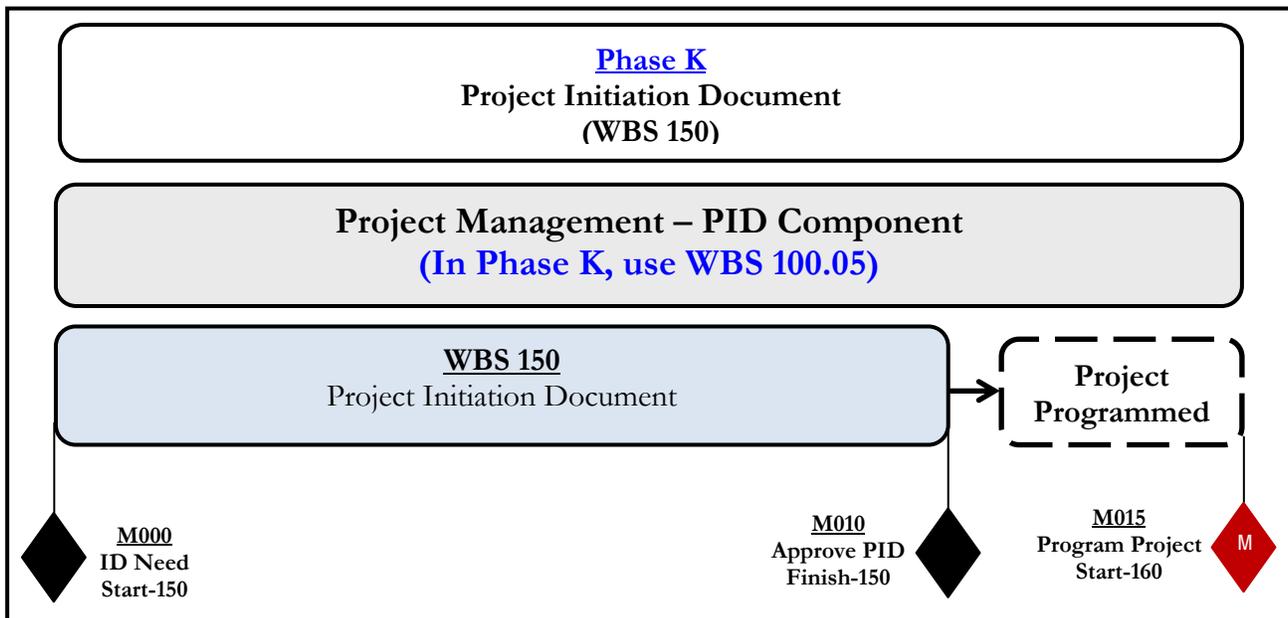
Generic Relationships Between WBS Elements At Level 5 And Milestones
 The general relationship of Project Phases to WBS Elements is as shown below:



For details within each phase, see below and those shown on the following 5 pages with notes on page 20.

For details on all standard milestone relationships to WBS elements, see the List of Milestones found at: <http://onramp.dot.ca.gov/hq/projmgmt/index.jsp?pg=29>.

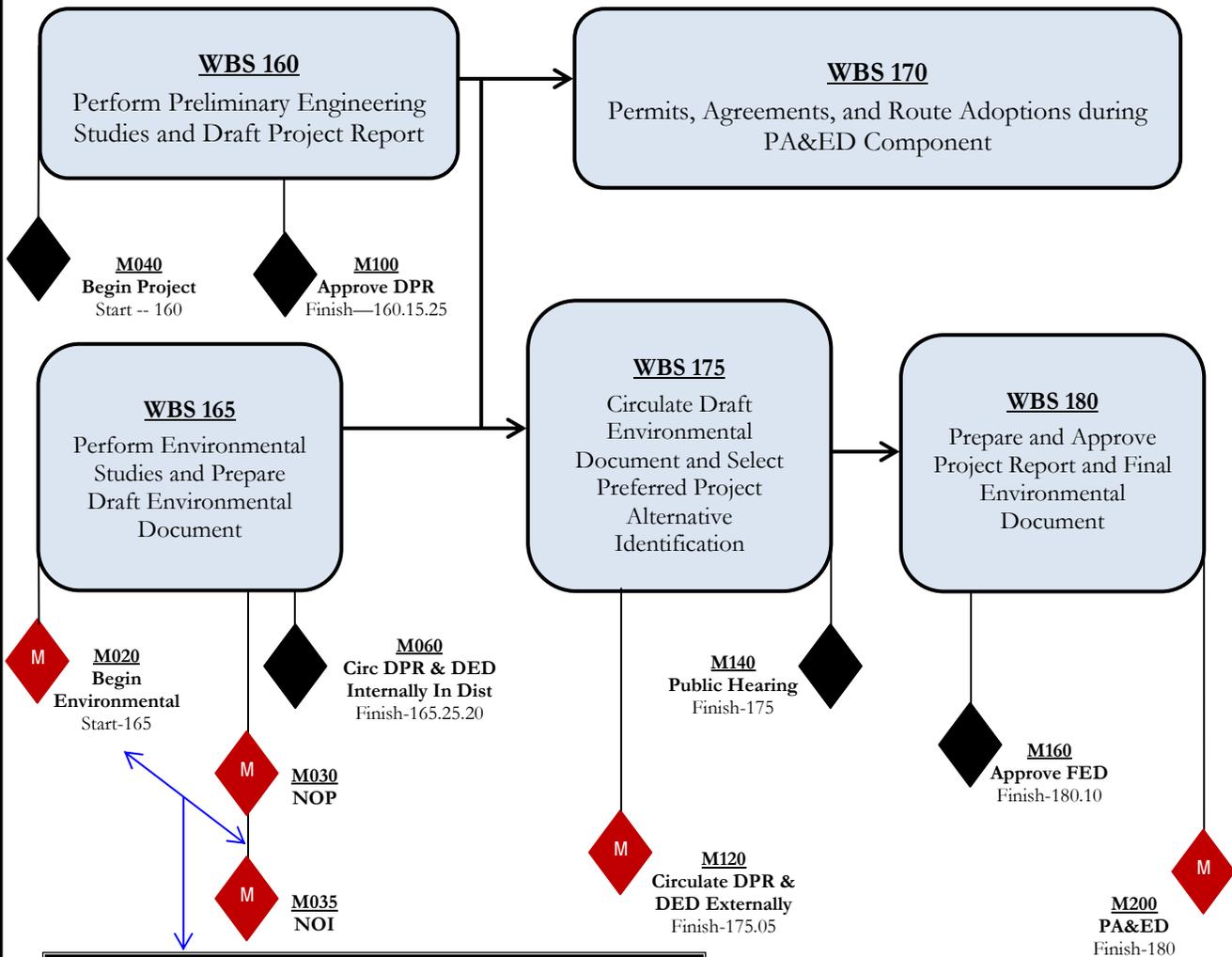
Phase K with WBS Elements and Milestones with ID number, name and links



Phase 0 with WBS Elements and Milestones with ID number, name and links

Phase 0
Project Approval and Environmental Document
 (WBS 160, 165, 170, 175, 180)

Project Management – PA&ED Component
 (In Phase 0, use WBS 100.10)

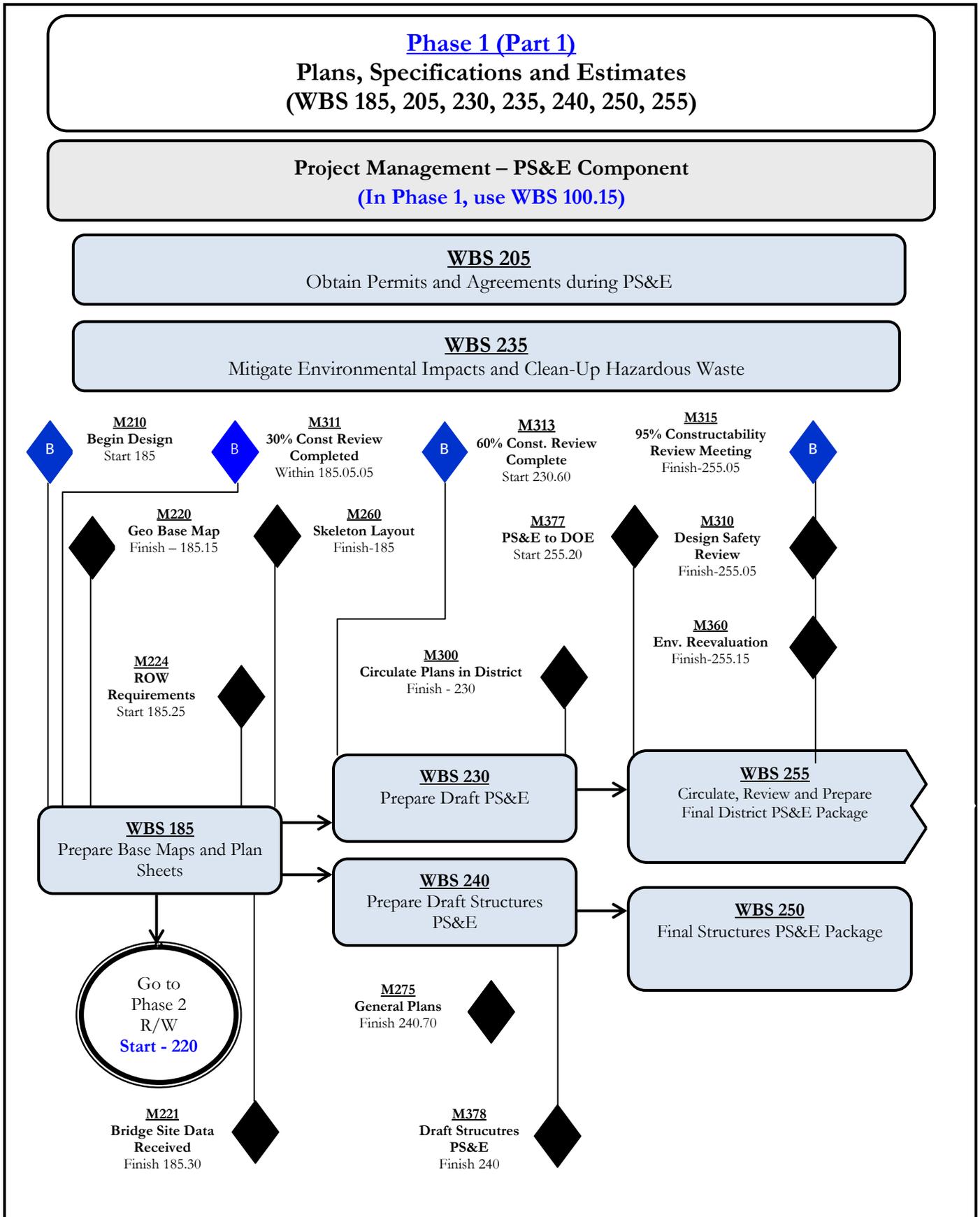


For M030 (CEQA for EIR), Lag after M020, number of days determined by PDT

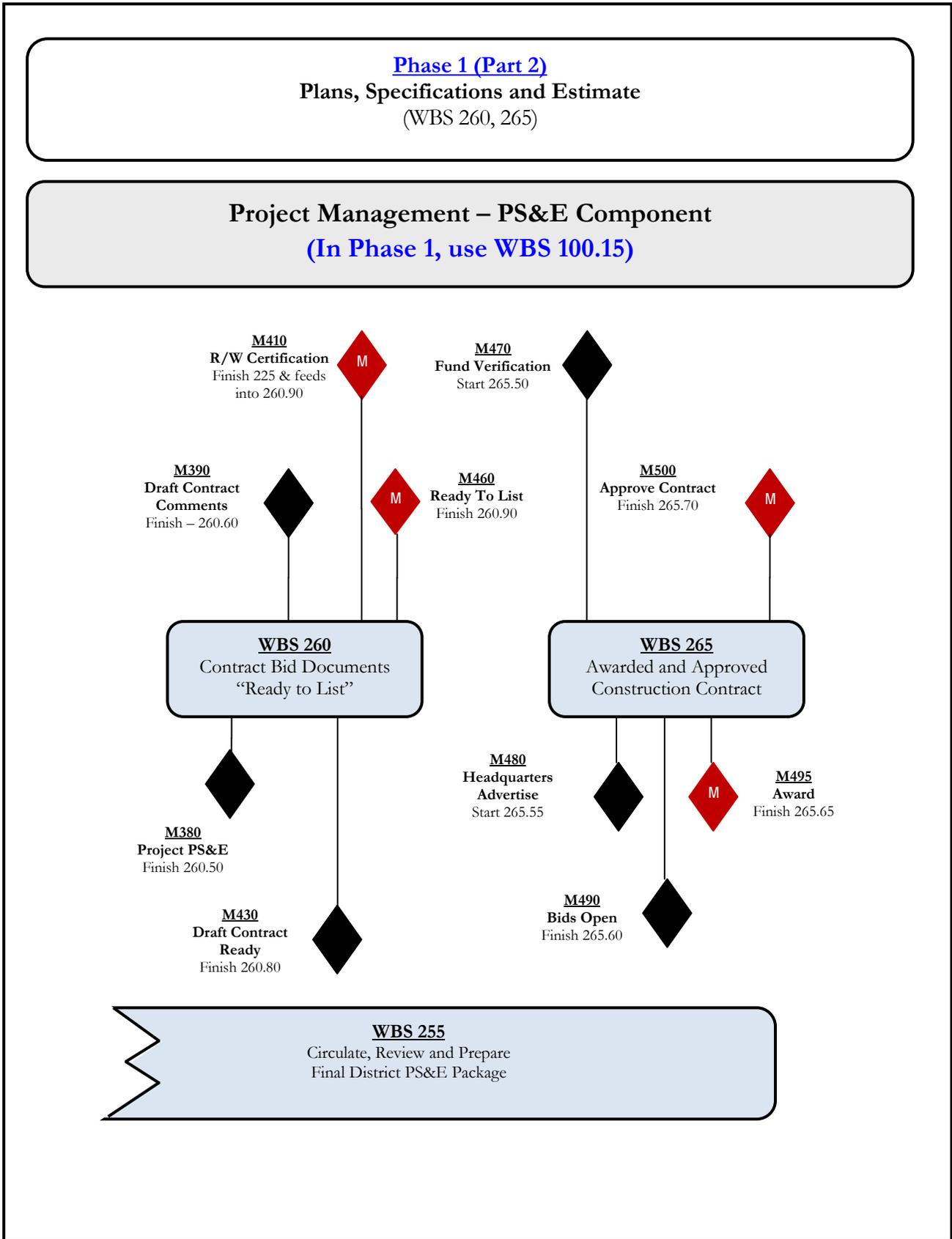
For M035 (NEPA for EIS), Lag after M020, number of days determined by PDT **(Both are related to WBS 165.05.10)**

Refer to:
http://onramp/hq/pm/dpmwp/content/PGD/DirectivesAndMemos/PGD_RevisedCapitalProjectMilestoneStandards.pdf

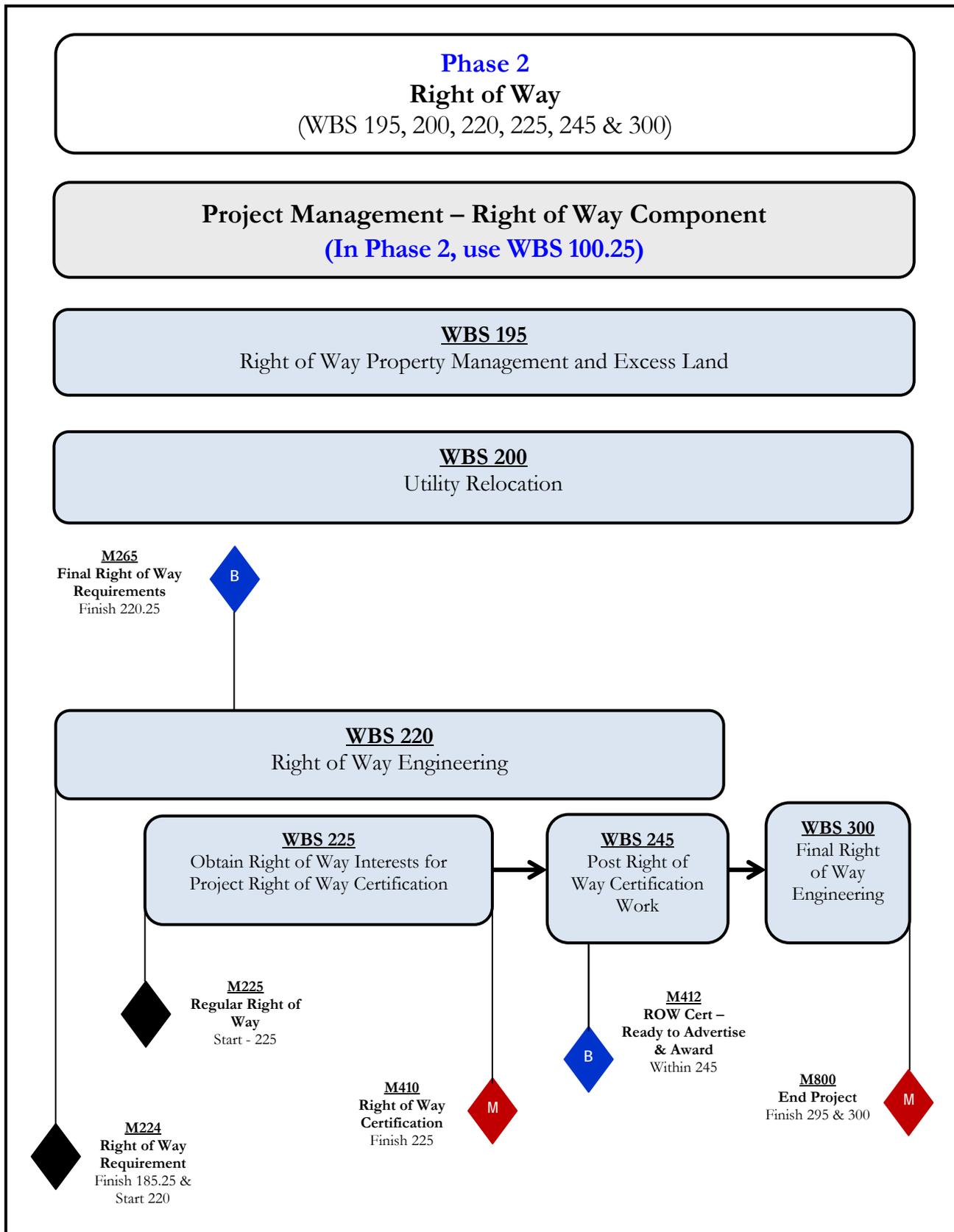
Phase 1 with WBS Elements and Milestones with ID number, name and links (Part 1)



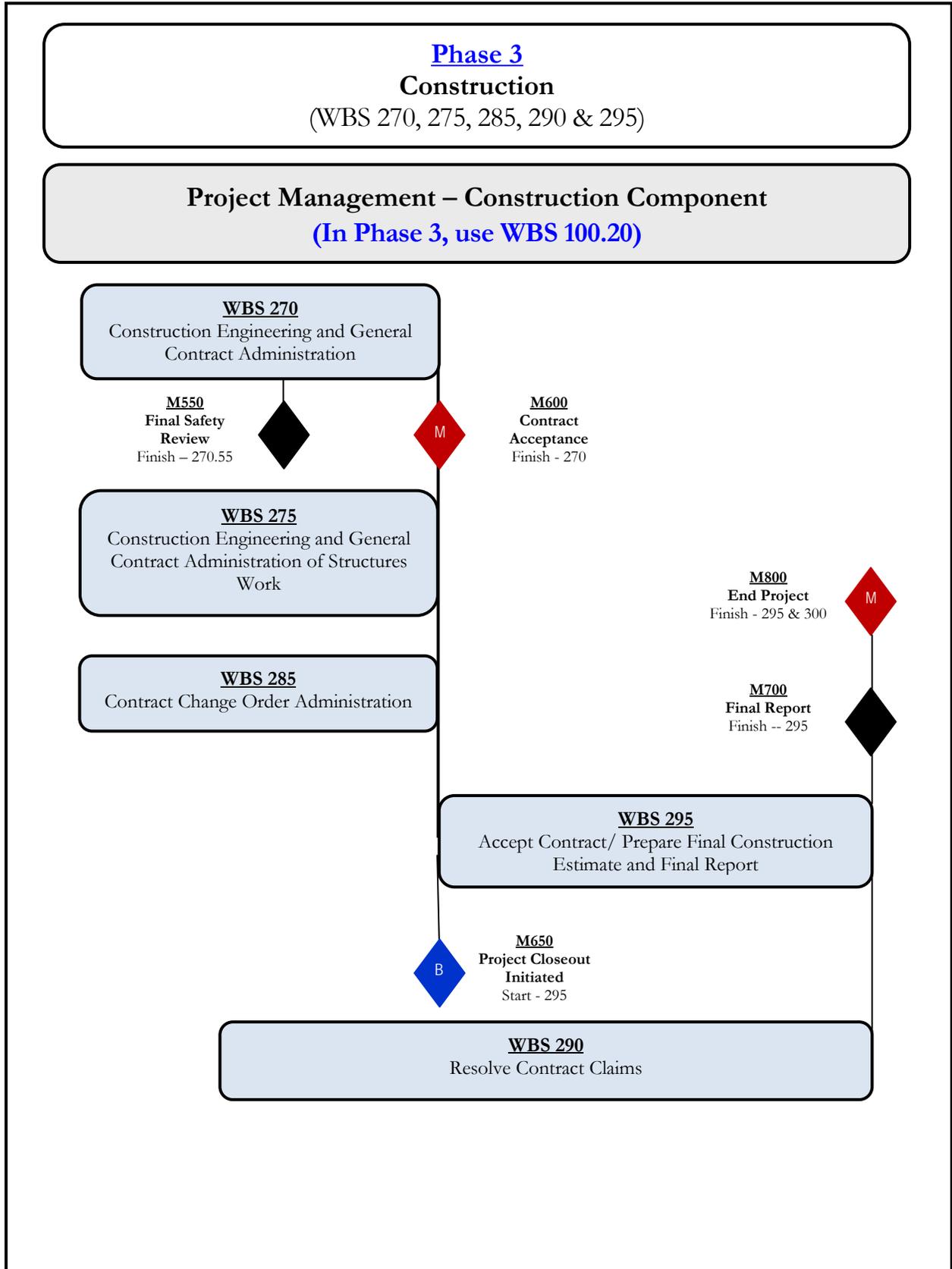
[Phase 1 with WBS Elements and Milestones with ID number, name and links \(Part 2\)](#)



Phase 2 with WBS Elements and Milestones with ID number, name and links

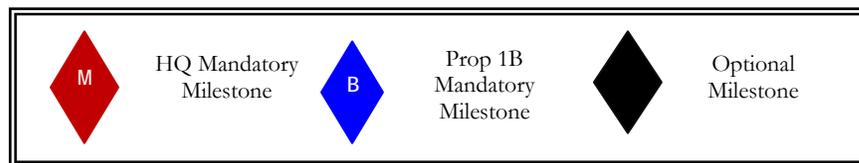


Phase 3 with WBS Elements and Milestones with ID number, name and links



Notes on the above charts

1. Please note that this only shows a generic relationship as to how things may occur; project specific requirements may dictate a different order of work. Design-Build and other out of sequence type projects may differ significantly.
2. WBS element numbering has nothing to do with the order of work but just acts as a place holder within the various types of work products being identified and produced.
3. Some elements like 255 are concurrent through the work done under elements 260 and 265, especially for “Updating the RE Pending Files” and “Construction Staking Package.” Every project may have multiple concurrent elements depending on needs and/or processes involved. Other elements like 250 can and do have some concurrency with 255 but it’s an overlap not a “finish-to-finish” relationship.
4. All milestones shown are not required (see Legend below), **M015, M020, M030 OR M035** (one or the other but not both), **M120, M200, M380, M410, M460, M495, M500, M600** and **M800** are required on all projects. In addition the following milestones are required on the Proposition 1B projects: M210, M265, M311, M313, M315, M412, and M650. For complete Milestone listing, see [Part IV-Milestones](#) of this guide.



WORK THE PLAN

Charging Project Work Using WBS

The Project Manager will determine the minimum level of detail in WBS to which each portion of a project will be scheduled beyond the mandatory Level 5. A functional manager may elect to schedule activities for their portion of the work at a more detailed (lower) level. A single project workplan can consist of Level 5, Level 6, Level 7, and Level 8 activities, as needed for proper managing of the work.

Supervisors should take care to ensure that staff working on each part of a project (deliverable) understands which level is planned, so that time reporting can be consistent with the desired level.

For example, if a portion of the work is planned only to the WBS Level 5, the time reporting entries must be at least to Level 5. If scheduled work is to Level 7, time charges must be to Level 7.

It is imperative for the Project Team to perform their work within the allotted schedule constraints. Should more time be required to complete a given task, the Project Manager or Task Manager will need to be contacted.

For additional information regarding charging practices reference the COS Proper Charging Guide at <http://cap3.dot.ca.gov/EVRStest/ProperChargingPractice/index.htm>. All COS time charges need to abide by the approved tasks listed in this guide.

Consultant Oversight versus Staff Work

Historically, when an individual was performing oversight on a project activity being done by others (i.e. Consultants, Local Agency, Etc.), the prefix “O” would be used in the MSA field on the time sheets, otherwise the prefix “P” would be used followed by the appropriate Level 6, 7 or 8 WBS element code(s). As of the release of this document, the MSA field has been omitted; it is a common understanding that a comparable mechanism will exist in the new Project Resource Schedule Management (PRSM) tool.

Rework Efforts

Rework is defined as “the re-opening of an activity due to error or re-scope, in which the deliverable is complete or as deemed necessary by the Task Manager”. Prior to the implementation of E-FIS, when an individual was performing rework activities, the prefix “T” would be used in the MSA field followed by Level 6, 7 or 8 WBS element code, as of the release of this document, the MSA field has been omitted; it is a common understanding that a comparable mechanism will exist in the new Project Resource Schedule Management (PRSM) tool.

Charging a Project Activity Using WBS

The WBS is a product-oriented hierarchy. Activities are what people do to produce WBS elements. There are no activities in a WBS. For example:

Design is an activity. Plans, Specifications and Estimates are products.

Surveying is an activity. Maps are products.

A particular activity is often performed during the production of several products. For example, design is performed as part of the preparation of project initiation documents (PID); project reports (PR); plans, specifications and estimates (PS&E); and some contract change orders. If a specific activity is needed to produce more than one WBS element, it should be planned as part of the first WBS element that will need it.

For example, if mapping will be used in the PID, PR and PS&E, that mapping is planned and charged as part of the PID. If another piece of mapping will be used for the PR and PS&E, but not the PID, it is planned and charged as part of the Project Report.

WBS Change Control Process

It may be necessary to revise the Workplan Standards Guide (WSG) from time to time in order to adapt to the changing business environment in which we operate, the WSG Committee and website was established with that in mind. The website is a collaboration tool that allows anyone in Caltrans to submit a change request or comment on any pending changes and ultimately provide the status of the submitted change. The WSG Committee comprised of Subject Matter Experts (SME) from all Functional Groups in COS meet on a regular basis to discuss the merits of any Change Request submitted via the WSG website. Change Requests that are incomplete or do not provide accurate information, will not be reviewed by the Committee.

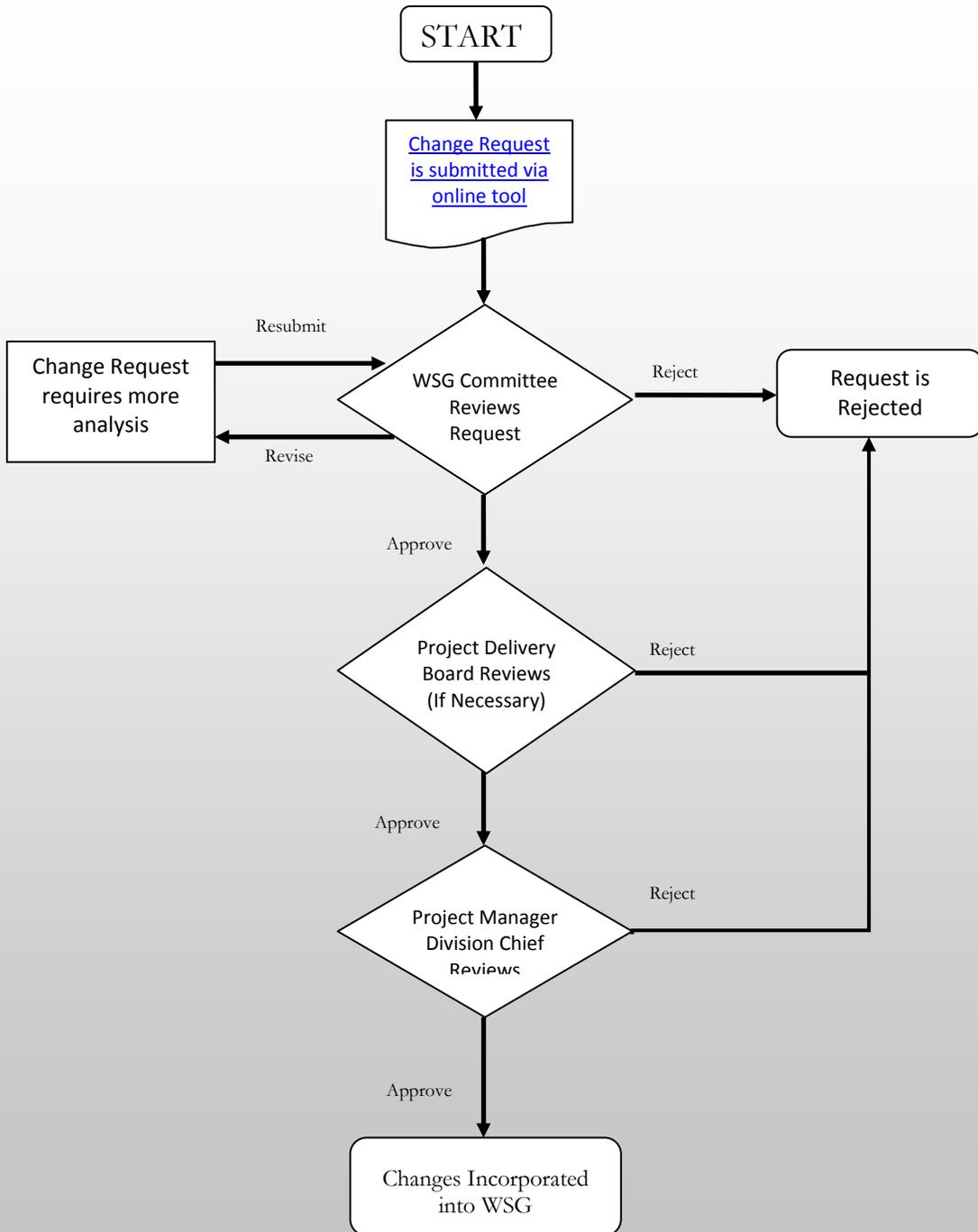
Any change to the WBS may have impacts on other areas of the project development process so they are subjected to an extensive review by the WSG Committee prior to being implemented. There are limits to the type of problems that can be effectively cured by changing the WBS.

Just as, it would not be productive to attempt to remedy a flat tire on your car by working on the engine, attempts to fix problems caused by resource allocation or charging practice issues by modifying the Work Breakdown Structure (WBS) are equally unproductive. Yet, these two issues are at the root of many change requests that are ultimately rejected.

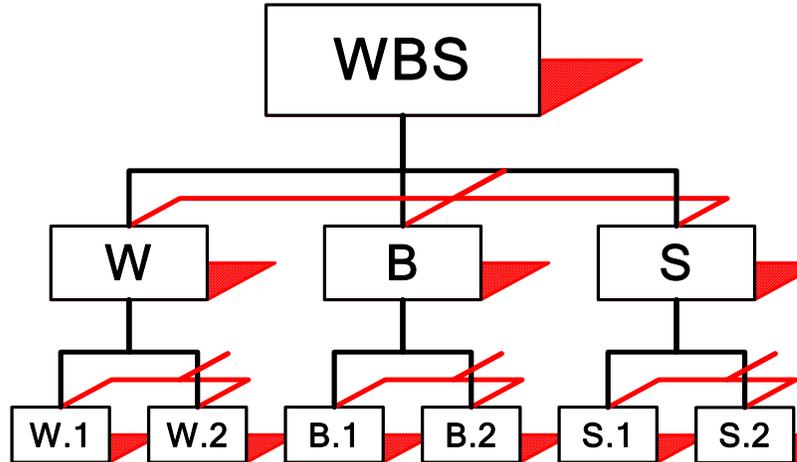
This current process is as follows:

1. To propose a change to the WBS, products or definition of products, the requester may submit or comment via the online tool located at: <http://sv06web1.dot.ca.gov/ppm/pmsu/apps/wsgHQ/wsgims.cfm>. Anyone from the Districts, Regions, Division of Engineering Services (DES), or Headquarters programs working on capital projects may prepare a WBS Change Request. However, only those Change Requests that are complete will be reviewed.
2. The WBS Committee composed of Subject Matter Experts in each of the functional groups meets on a regular basis to review the request and plan for implementation of the proposed changes
3. Change Requests approved by the WSG Committee will be presented to the Project Delivery Board and ultimately the Project Manager Division Chief for final authorization
4. Project Manager's and Project Teams will begin implementation of the approved changes.

WBS Change Control Process



Part II WBS Definitions



WBS Definition Format

The definition, given for each WBS element, is a generic description of work represented by the element. These definitions are not intended to be all inclusive of every work activity that must be accomplished. Thus the phrases, “All work involved in...” or “Includes...” were used instead of an exhaustive list of sub-tasks.

These definitions do not describe the processes required to accomplish the work. The processes are described elsewhere in various guidance documents (e.g., manuals, memos, policy directives, etc.).

In addition, a list of guidance documents may be provided for each WBS element (i.e., the Lowest WBS level).

Level 5 work elements

An overall description of the work is provided for the major work element level.

Level 6 work elements

A description of the work and a list of end products are provided. It may be supplemented by a bullet list of sub-tasks to further clarify what is covered by this activity. This bullet list may be used to develop Level 7 activities where a manager determines it is necessary to decompose this activity to more detailed levels. A list of guidance documents may be provided.

Level 7 work elements

Many Level 7 activities are fairly small and self-definable, such as 160.05.05 “Review Approved PID”. In these instances no description is provided.

Other Level 7 activities are still relatively large or they are less known activities that require more information than their title alone provides. For example, 185.15.05 “Perform Roadway and Misc. Design” or 235.05.15 “Perform Biological Mitigation” both need further description of the work.

Activity descriptions may be supplemented by a bullet list of sub-tasks to further clarify what is covered by this activity. This bullet list may be used to develop lower Level activities where a manager determines it is necessary to decompose this activity to more detailed levels. These lower levels can only be added if no other lower levels are defined herein. In some cases one or more end products for the activity are listed. A list of guidance documents may be provided.

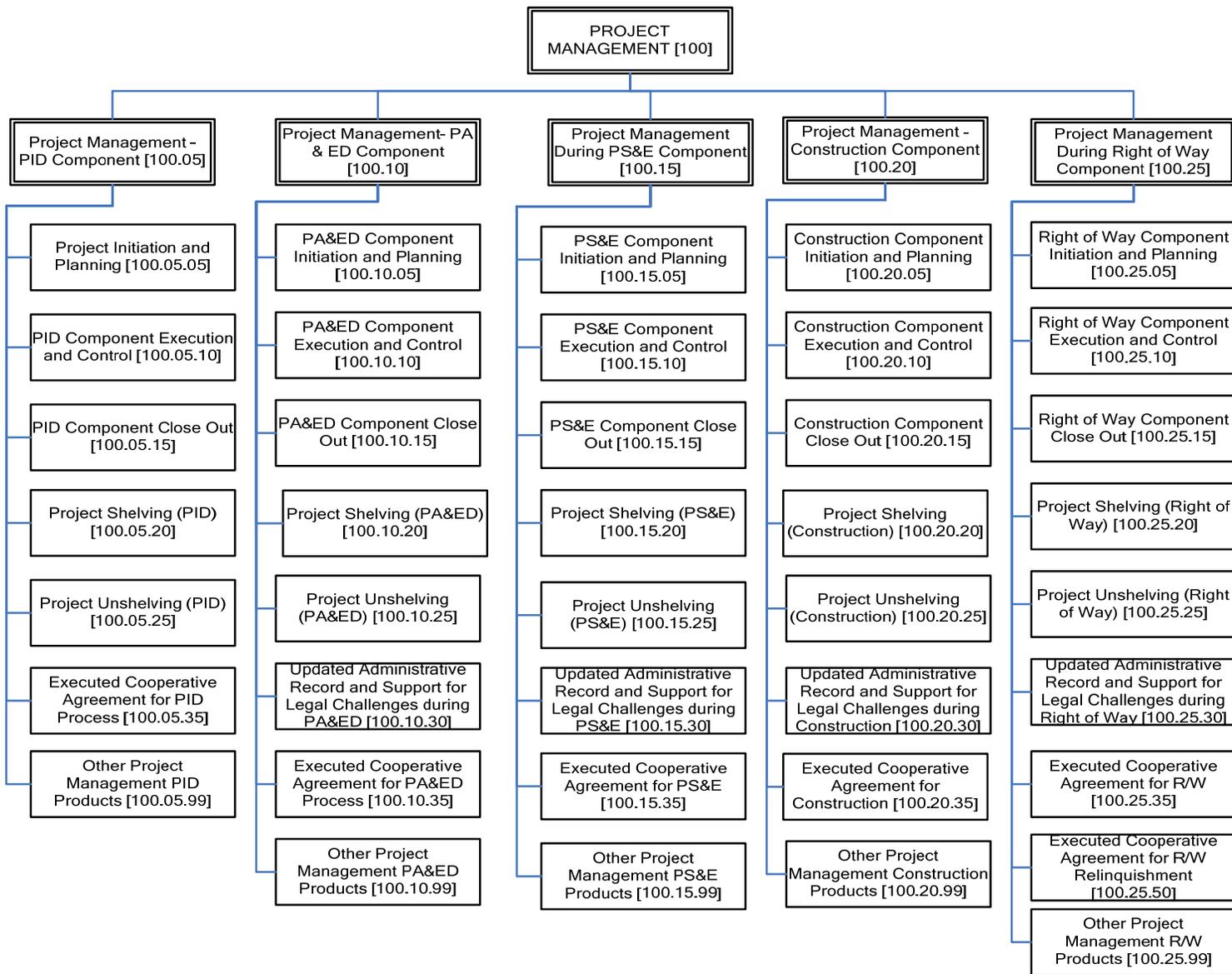
Level 8 work elements

Many Level 8 activities are fairly small and self-definable, such as 165.20.05.25 “Prepare Archaeological Survey Report (ASR)”. In these instances no description is provided.

Other Level 8 activities are still relatively large or they are less known activities that require more information than their title alone provides. A list of guidance documents may be provided.

Part II is the dictionary that provides the Project Delivery Standard WBS work element definitions. The WBS elements are organized by their code structure, with the major sections based on the Level 5 coding. Appendix D has been provided as a quick reference to WBS elements. It contains all the WBS elements listed by their code.

100 Project Management



100 Project Management

The services provided include the initiation and planning of the project, and the execution, control, and close out of the project.

100.05 Project Management – PID Component

Includes the management of the PID component from initiation through completion and preparation of an initial plan for the later phases. The services provided include the initiation and planning of the project, and the execution, control, and close out of the PID component.

100.05.05 Project Initiation and Planning

Includes the management of the PID component from initiation through completion. The services provided include the initiation and planning of the project, and the execution, control, and close out of the component.

Guidance

- A Guide to the Project Management Body of Knowledge (PMBOK)
- Service Contracts Manual; Chapters 1-7, 12, & 17
- Project Development Procedures Manual (PDPM)
- Project Development Workflow Tasks Manual (PDWTM)
- Project Management Control System (PMCS) User Manual
- Project Management Data Warehouse Handbook
- Project Management Directives; PMD's 001, 002, 003R, & 004
- Project Management Handbook, Fifth Edition, 10/01/07, Chapter 4 One-Hat and Two-Hat Project Managers
- Project Management Memo; Dated 12/11/01 by Mickey Horn (Acting), Revised Capital Project Milestones Standards
- Capital Project Workplan Handbook, First Edition, Sept. 2010
- Work Breakdown Structure (WBS)
- Workload Estimating Norms (WEN) Capital Outlay Estimating Tool
- XPM Information; XPM Transactions, XPM Training Manual, Abbreviated Task Name, & Cost Center to XPM Resource ID Conversion

Sub-Tasks

- Assign project manager.
- Set up Phase K in AMS Advantage (EFIS)
- Develop charter for PID. This document should identify the purpose and need for the project, the type of PID to be developed, possible funding source(s), constraints, and assumptions. It should incorporate by reference any agreements with the sponsors (local agencies, maintenance, etc.).
- Enter project into project management database system(s) (XPM, PMCS, etc.)
- Develop Workplan (resourced schedule). Includes the projects scope, cost, and schedule elements.
- Develop Quality Management Plan.

- Develop Communication Management Plan.
- Develop Risk Management Plan and Risk Register.
- Develop Resource Management Plan (staff and procurement).
- Work agreements for staff resources for the PID component.
- Scope of work for procurement of A&E contracts/agreements for the PID component.

End Product(s)

- Initial Project Management Plan (detailed for PID component, summary for the remaining project components).

100.05.10 PID Component Execution and Control

The process of coordinating people and other resources to carry out the plan, and ensuring that the PID component objectives are being met by monitoring progress and taking corrective action when necessary.

Guidance

- A Guide to the Project Management Body of Knowledge (PMBOK); Section I: Chapter 3 & Section II
- Service Contracts Manual; Chapters 1-7, 12, & 17
- Project Development Procedures Manual (PDPM)
- Project Development Workflow Tasks Manual (PDWTM)
- Project Management Control System (PMCS) User Manual
- Project Management Data Warehouse Handbook
- Project Management Directives; PMD's 001 & 003R
- Project Management Handbook, Fifth Edition, 10/01/07
- Project Management Memo; Dated 12/11/01 by Mickey Horn (Acting), Revised Capital Project Milestones Standards
- Capital Project Workplan Handbook, First Edition, Sept. 2010
- XPM Information; Abbreviated Task Name, XPM Transactions, XPM Training Manual, & Cost Center to XPM Resource ID Conversion

Sub-Tasks

- Status project. Includes the entire status process from reporting work results to updating databases. Includes updating and revising workplan during PID component execution.
- Communication and distribution of project records and information. Includes responses to all internal and external requests for information about the project.
- Updating Quality Management Plan.
- Updating Communication Management Plan.
- Updating Risk Management Plan and Risk Register.
- Quality assurance / Quality control
- Procurement of resources through A&E contracts, interagency and cooperative agreements, etc. for the PID component. Includes the following:
 - Request for Qualifications (RFQ) or Proposal (RFP).
 - Selection of consultant.
 - Contract negotiation.
 - Contract execution.
 - Contract management.

- Develop a plan for later phases

End Product(s)

- Updated Project Management Plan
- Project Records, using Uniform File System

100.05.15 PID Component Close Out

The process of formally bringing the PID component to an end

Guidance

- A Guide to the Project Management Body of Knowledge (PMBOK); Section I: Chapter 3 & Section II: Chapter 10; 10.4 & Chapter 12; 12.6
- Service Contracts Manual; Chapters 4, 7, & 17
- Project Management Control System (PMCS) User Manual
- Project Management Data Warehouse Handbook
- Project Management Directives; PMD's 001, 003R & 004
- Project Management Handbook, Fifth Edition, 10/01/07; Chapter 3 & 4
- Capital Project Workplan Handbook, First Edition, Sept. 2010
- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1 Chap. 5](#)

Sub-Tasks

- Finalize any contracts or agreements that are completed.
- Sponsor, team, and stakeholder evaluations of the PID component.
- Document lessons learned from the PID component.
- PID component close out report.
- Project Engineer completes the "Project Performance Output Table" and the "Asset Management Table". For guidance contact the appropriate Headquarters SHOPP Manager.
- Close PID component Project Phase
- Project Manager consults project customer for identification of performance outputs to be measured by this project and Project Engineer completes "Project Performance Output Table" and "Asset Management Table". For guidance contact the appropriate Headquarters SHOPP Manager.

End Product(s)

- Cooperative Agreement Closeout
- Lessons Learned
- Archived Records
- Updated "Project Performance Output Table" and "Asset Management Table"
- Close out Project Phase K
- Created "Project Performance Output Table" and "Asset Management Table".

100.05.20 Project Shelving (PID)

Includes all efforts related to bringing a project and its associated files, designs, and other materials to neat closure at any point prior to full completion/closeout of the PID phase.

100.05.25 Project Unshelving (PID)

Includes all efforts related to reinitiating PID phase efforts for a project that was previously shelved prior to full completion/closeout of the PID phase.

100.05.35 Executed Cooperative Agreement for PID Process

All work involved in preparing and obtaining approval of cooperative agreements during the PID process. Includes projects, which are 100% State funded, jointly funded, locally funded, local sales tax measure, privately funded, and reimbursed. This task includes cooperative agreements, which cover multi-phases, which may begin with but may not be limited to the PID phase. PID work covered includes WBS tasks in 150.

Guidance

- Cooperative Agreement Manual
- Project Development Procedures Manual (PDPM), Chapter 13, Article 3; Chapter 16, All
- [Standard Environmental Reference](#)

Sub-Tasks

- Cooperative Agreement Report, if required.
- Assign a Cooperative Agreement Number
- Prepare draft
- Obtain reviews
- Incorporate changes.
- Prepare transmittal memo.
- Execute Cooperative Agreement.
- Prepare and execute amendments.

End Product(s)

- Approval of the cooperative agreement(s)

100.05.99 Other Project Management PID Products

All other work, during the Project Management PID process, not defined or covered in other 100.05 elements.

100.05 Project Management – PA&ED Component

Includes the management of the PA&ED component from initiation through completion and updating the plan for later phases. The services provided include the initiation, planning, execution, control, and closeout of the PA&ED component.

100.10.05 PA&ED Component Initiation and Planning

Project Management Plan with changes made during PID component and with added detail for PA&ED Component. Summary for remaining project components

Guidance

- A Guide to the Project Management Body of Knowledge (PMBOK)
- Service Contracts Manual; Chapters 1, 12, & 17
- Project Development Procedures Manual (PDPM)
- Project Development Workflow Tasks Manual (PDWTM)
- Project Management Control System (PMCS) User Manual
- Project Management Data Warehouse Handbook
- Project Management Directives; PMD's 001, 002, 003R, & 004
- Project Management Handbook, Fifth Edition, 10/01/07
- Capital Project Workplan Handbook, First Edition, Sept. 2010
- Work Breakdown Structure (WBS)

- Workload Estimating Norms (WEN)
- Capital Outlay Estimating Tool
- XPM Information; XPM Training Manual, XPM Transactions,
- Abbreviated Task Name, & Cost Center to XPM Resource ID Conversion
- [Standard Environmental Reference](#) (SER)

Sub-Tasks

- Establish Project identifier for the PA&ED component
- Develop charter for the PA&ED component. In most cases the PID may serve as the charter for the PA&ED component.
- Update records in project management database system(s) (XPM, PMCS, etc.) for PA&ED component.
- Update workplan (resourced schedule) for the PA&ED component. Includes the projects scope, cost, and schedule elements.
- Update Quality Management Plan for the PA&ED component.
- Update Communication Management Plan for the PA&ED component.
- Update Risk Management Plan and Risk Register for the PA&ED component.
- Update Resource Management Plan (staff and procurement) for the PA&ED component.
- Work agreements for staff resources the PA&ED component.
- Scope of work for procurement of A&E contracts/agreements for the PA&ED component.

End Product(s)

- Project Management Plan with changes made during PID component and with added detail for the PS&E component. Produce summary for the remaining project components. Updated “Project Performance Output Table” and “Asset Management Table”.

100.10.10 PA&ED Component Execution and Control

The process of coordinating people and other resources to carry out the plan, and ensuring that the PA&ED component objectives are being met by monitoring progress and taking corrective action when necessary.

Guidance

- A Guide to the Project Management Body of Knowledge (PMBOK); Section I: Chapter 3, & Section II
- Service Contracts Manual; Chapters 1-7, 12, & 17
- Project Development Procedures Manual (PDPM)
- Project Development Workflow Tasks Manual (PDWTM)
- Project Management Control System (PMCS) User Manual
- Project Management Data Warehouse Handbook
- Project Management Directives; PMD’s 001 & 003R
- Project Management Handbook, Fifth Edition, 10/01/07
- Capital Project Workplan Handbook, First Edition, Sept. 2010
- Work Breakdown Structure (WBS); WBS & Task Definitions, WBS 100, 160-180
- XPM Information; XPM Training Manual, XPM Transactions, Abbreviated Task Name, & Cost Center to XPM Resource ID Conversion
- [Standard Environmental Reference](#) (SER)

Sub-Tasks

- Status project. Includes the entire status process from reporting work results to updating databases. Includes updating and revising workplan during PA&ED component execution.
- Communication and distribution of project records and information. Includes responses to all internal and external requests for information about the project.
- Quality assurance/quality control
- Updating Quality Management Plan.
- Updating Communication Management Plan.
- Updating Risk Management Plan and Risk Register.
- Develop SAFETEA-LU Project Management Plan.
- Procurement of resources through A&E contracts, interagency and cooperative agreements, etc. for the PA&ED component. Includes the following:
 - Request for Qualifications (RFQ) or Proposal (RFP).
 - Selection of consultant.
 - Contract negotiation.
 - Contract execution.
 - Contract management.
 - Update the plan for later phases.

End Product(s)

- Updated Project Management Plan
- Project records, using Uniform File System

100.10.15 PA&ED Component Close Out

Includes the process of formally bringing the PA&ED component to an end.

Guidance

- A Guide to the Project Management Body of Knowledge (PMBOK); Section I: Chapter 3 & Section II: Chapter 10; 10.4 & Chapter 12; 12.6
- Service Contracts Manual; Chapters 4, 7, & 17
- Project Management Control System (PMCS) User Manual
- Project Management Data Warehouse Handbook
- Project Management Directives; PMD's 001, 003R, & 004
- Project Management Handbook, Fifth Edition, 10/01/07; Chapter 3 & 4
- Capital Project Workplan Handbook, First Edition, Sept. 2010
- [Standard Environmental Reference](#) (SER)

Sub-Tasks

- Finalize any contracts or agreements that are completed.
- Sponsor, team, and stakeholder evaluations of the PA&ED component.
- Document lessons learned from the PA&ED component.
- PA&ED component close out report.
- Finalize SAFETEA-LU Project Management Plan.
- Project Engineer completes the "Project Performance Output Table" and the "Asset Management Table". For guidance contact the appropriate Headquarters SHOPP Manager.
- Close PA&ED component Project Phase

- Project Manager consults project customer for identification of performance outputs to be measured by this project and Project Engineer completes “Project Performance Output Table” and “Asset Management Table”. For guidance contact the appropriate Headquarters SHOPP Manager.

End Product(s)

- Cooperative Agreement close-out
- Lessons Learned
- Archived records
- Updated “Project Performance Output Table” and “Asset Management Table”
- Closeout Project Phase “0”

100.10.20 Project Shelving (PA&ED)

Includes all efforts related to bringing a project and its associated files, designs, and other materials to neat closure at any point prior to full completion/closeout of the PA&ED phase.

100.10.25 Project Unshelving (PA&ED)

Includes all efforts related to reinitiating PA&ED phase efforts for a project that was previously shelved prior to full completion/close out of the PA&ED phase.

100.10.30 Updated Administrative Record and Support for Legal Challenges during PA&ED

Includes all efforts related to preparing or updating the Administrative Record for a project, as well as providing support for legal challenges, during the PA&ED phase.

100.10.35 Executed Cooperative Agreement for PA&ED Process

All work involved in preparing and obtaining approval of cooperative agreements during the environmental process. Includes projects, which are 100% State funded, jointly funded, locally funded, local sales tax measure, privately funded, and reimbursed. This task includes cooperative agreements that cover multi-phases, which may begin with but may not be limited to the environmental phase. PA&ED work covered includes WBS tasks in 160, 165, 175, 180 and 205.

Guidance

- Cooperative Agreement Manual
- Project Development Procedures Manual (PDPM), Chapter 13, Article 3; Chapter 16, All
- [Standard Environmental Reference](#)

Sub-Tasks

- Cooperative Agreement Report, if required.
- Assign a Cooperative Agreement Number
- Prepare draft
- Obtain reviews
- Incorporate changes.
- Prepare transmittal memo.
- Execute Cooperative Agreement.
- Prepare and execute amendments.

End Product(s)

- Approval of the cooperative agreement(s)

100.10.99 Other Project Management PA&ED Products

All other work, during the Project Management PA&ED process, not defined or covered in other 100.10 elements.

100.15 Project Management - PS&E Component

Includes the management of the PS&E component from initiation through completion and updating the plan for later phases. The services provided include the initiation, planning, execution, control, and close out of the PS&E component.

100.15.05 PS&E Component Initiation and Planning

Project Management Plan with changes made during earlier components and with added detail for the remaining project component.

Guidance

- 2iA Guide to the Project Management Body of Knowledge (PMBOK)
- Service Contracts Manual; Chapters 1-7, 12, & 17
- Project Development Procedures Manual (PDPM)
- Project Development Workflow Tasks Manual (PDWTM)
- Project Management Control System (PMCS) User Manual
- Project Management Data Warehouse Handbook
- Project Management Directives; PMD's 001, 002, 003R, & 004
- Project Management Handbook, Fifth Edition, 10/01/07
- Project Management Memo; Dated 12/11/01 by Mickey Horn (Acting), Revised Capital Project Milestones Standards
- Capital Project Workplan Handbook, First Edition, Sept. 2010
- Work Breakdown Structure (WBS)
- Workload Estimating Norms (WEN) Capital Outlay Estimating Tool
- XPM Information; XPM Training Manual, XPM Transactions, Abbreviated Task Name, & Cost Center to XPM Resource ID Conversion

Sub-Tasks

- Establish Project Identifier for the PS&E phase
- Develop charter for the PS&E component. In most cases the approved environmental document and/or the project report may serve as the charter for the PS&E component.
- Update records in project management database system(s) (XPM, PMCS, etc.) for PS&E component.
- Update workplan (resourced schedule) for the PS&E component. Includes the projects scope, cost, and schedule elements.
- Update Quality Management Plan for the PS&E component.
- Update Communication Management Plan for the PS&E component.
- Update Risk Management Plan and Risk Register for the PS&E component.
- Update Resource Management Plan (staff and procurement) for the PS&E component.
- Work agreements for staff resources the PS&E component.
- Scope of work for procurement of A&E contracts/agreements for the PS&E component.

End Product(s)

- Project Management Plan with changes made during earlier components and with added detail for the PS&E component. Summary for the remaining project components.

100.15.10 PS&E Component Execution and Control

The process of coordinating people and other resources to carry out the plan, and ensuring that the PS&E component objectives are being met by monitoring progress and taking corrective action when necessary

Guidance

- A Guide to the Project Management Body of Knowledge (PMBOK); Section I: Chapter 3 & Section II
- Service Contracts Manual; Chapters 1-7, 12, & 17
- Project Development Procedures Manual (PDPM)
- Project Development Workflow Tasks Manual (PDWTM)
- Project Management Control System (PMCS) User Manual
- Project Management Data Warehouse Handbook
- Project Management Directives; PMD's 001 & 003R
- Project Management Handbook, Fifth Edition, 10/01/07
- Project Management Memo; Dated 12/11/01 by Mickey Horn (Acting), Revised Capital Project Milestones Standards
- Capital Project Workplan Handbook, First Edition, Sept. 2010
- Work Breakdown Structure (WBS); WBS Task Definitions, WBS100, 185-260
- XPM Information; XPM Training Manual, XPM Transactions,
- Abbreviated Task Name, & Cost Center to XPM Resource ID Conversion

Sub-Tasks

- Status project. Includes the entire status process from reporting work results to updating databases. Includes updating and revising workplan during PS&E component execution.
- Communication and distribution of project records and information. Includes responses to all internal and external requests for information about the project.
- Quality assurance/quality control
- Updating Quality Management Plan.
- Updating Communication Management Plan.
- Updating Risk Management Plan and Risk Register.
- Update SAFETEA-LU Project Management Plan.
- Develop SAFETEA-LU Financial Plan.
- Procurement of resources through A&E contracts, interagency and cooperative agreements, etc. for the PS&E component. Includes the following:
 - Request for Qualifications (RFQ) or Proposal (RFP).
 - Selection of consultant.
 - Contract negotiation.
 - Contract execution.
 - Contract management.
- Update the plan for later phases

End Product(s)

- Updated Project Management Plan

- Project Records, using Uniform File System

100.15.15 PS&E Component Close Out

The process to formally bring the PS&E component to an end.

Guidance

- A Guide to the Project Management Body of Knowledge (PMBOK); Section I: Chapter 3 & Section II: Chapter 10; 10.4 & Chapter 12; 12.6
- Service Contracts Manual; Chapters 4, 7, & 17
- Project Management Control System (PMCS) User Manual
- Project Management Data Warehouse Handbook
- Project Management Directives; PMD's 001, 003R, & 004
- Project Management Handbook, Fifth Edition, 10/01/07; Chapter 3 & 4
- Capital Project Workplan Handbook, First Edition, Sept. 2010

Sub-Tasks

- Finalize any contracts or agreements that are completed.
- Sponsor, team, and stakeholder evaluations of the PS&E component.
- Document lessons learned from the PS&E component.
- PS&E component close out report.
- Update SAFETEA-LU Project Management Plan.
- Project Engineer completes the "Project Performance Output Table" and the "Asset Management Table". For guidance contact the appropriate Headquarters SHOPP Manager.
- Close PS&E Project component
- Project Manager consults project customer for identification of performance outputs to be measured by this project and Project Engineer completes "Project Performance Output Table" and "Asset Management Table". For guidance contact the appropriate Headquarters SHOPP Manager.

End Product(s)

- Cooperative Agreement Close-Out
- Lessons Learned
- Archived records
- Updated "Project Performance Output Table" and "Asset Management Table"
- Closeout of Project Phase '1'
- Updated "Project Performance Output Table" and "Asset Management Table"

100.15.20 Project Shelving (PS&E)

Includes all efforts related to bringing a project and its associated files, designs, and other materials to neat closure at any point prior to full completion/closeout of the PS&E phase.

100.15.25 Project Unshelving (PS&E)

Includes all efforts related to reinitiating PS&E phase efforts for a project that was previously shelved prior to full completion/close out of the PS&E phase.

100.15.30 Updated Administrative Record and Support for Legal Challenges during PS&E

Includes all efforts related to preparing or updating the Administrative Record for a Project, as well as providing support for legal challenges, during the PS&E phase.

100.15.35 Executed Cooperative Agreement for PS&E

All work involved in preparing and obtaining approval of cooperative agreements during the PS&E process. Includes projects, which are 100% State funded, jointly funded, locally funded, local sales tax measure, privately funded, and reimbursed. This task includes cooperative agreements that cover multi-phases, which may begin with but may not be limited to the PS&E phase. Included in this activity would be Highway Improvement Agreements. (PS&E - Construction, Design - Right of Way, and PS&E - Right of Way - Construction) PS&E work covered includes WBS tasks in 185, 230, 235, 240, 250, 255, 260, and 265.

Guidance

- Cooperative Agreement Manual
- Project Development Procedures Manual (PDPM), Chapter 13,
- Article 3; Chapter 16, All

Sub-Tasks

None Identified.

End Product(s)

- Approval of the cooperative agreement(s) or Highway Improvement Agreements

100.15.99 Other Project Management PS&E Products

All other work, during the Project Management PS&E process, not defined or covered in other 100.15 elements.

100.20 Project Management - Construction Component

Includes the management of the Construction component from initiation through completion. The services provided include the initiation, planning, execution, control, and close out of the Construction component.

100.20.05 Construction Component Initiation and Planning

Includes the process of formally recognizing that the project should continue into the Construction component and the process of updating the plan to guide the execution and control of the component. This plan should cover the Construction component in detail

Guidance

- A Guide to the Project Management Body of Knowledge (PMBOK)
- Service Contracts Manual; Chapters 1-7, 12, & 17
- Project Development Procedures Manual (PDPM)
- Project Development Workflow Tasks Manual (PDWTM)
- Project Management Control System (PMCS) User Manual
- Project Management Data Warehouse Handbook
- Project Management Directives; PMD's 001, 002, & 003R
- Project Management Handbook, Fifth Edition, 10/01/07
- Capital Project Workplan Handbook, First Edition, Sept. 2010
- Work Breakdown Structure (WBS)
- Workload Estimating Norms (WEN) Capital Outlay Estimating Tool
- XPM Information; XPM Training Manual, XPM Transactions, Abbreviated Task Name, & Cost Center to XPM Resource ID Conversion

Sub-Tasks

- Establish Project Phase for the Construction component
- Develop charter for the Construction component. In most cases the construction contract and Resident Engineer's file may serve as the charter for the Construction component.
- Update records in project management database system(s) (XPM, PMCS, etc.) for Construction component.
- Update workplan (resourced schedule) for the Construction component. Includes the projects scope, cost, and schedule elements.
- Update Quality Management Plan for the Construction component.
- Update Communication Management Plan for the Construction component.
- Update Risk Management Plan and Risk Register for the Construction component.
- Update Resource Management Plan (staff and procurement) for the Construction component.
- Work agreements for staff resources the Construction component.
- Scope of work for procurement of A&E contracts/agreements for the Construction component.

End Product(s)

- Project Management Plan with changes made during earlier components and added detail for the Construction component.

100.20.10 Construction Component Execution and Control

The process of coordinating people and other resources to carry out the plan, and ensuring that the Construction component objectives are being met by monitoring progress and taking corrective action when necessary.

Guidance

- A Guide to the Project Management Body of Knowledge (PMBOK); Section I: Chapter 3 & Section II
- Service Contracts Manual; Chapters 1-7, 12, & 17
- Project Development Procedures Manual (PDPM)
- Project Development Workflow Tasks Manual (PDWTM)
- Project Management Control System (PMCS) User Manual
- Project Management Data Warehouse Handbook
- Project Management Directives; PMD's 001 & 003R
- Project Management Handbook, Fifth Edition, 10/01/07
- Capital Project Workplan Handbook, First Edition, Sept. 2010
- Work Breakdown Structure (WBS)
- Work Breakdown Structure (WBS); WBS Task Definitions, WBS 100, 265-300
- XPM Information; XPM Training Manual, XPM Transactions,
- Abbreviated Task Name & Unit/Cost Center to XPM Resource ID
- [Standard Environmental Reference \(SER\) - Vol. 1](#)

Sub-Tasks

- Status project. Includes the entire status process from reporting work results to updating databases. Includes updating and revising workplan during Construction component execution.

- Communication and distribution of project records and information. Includes responses to all internal and external requests for information about the project.
- Quality assurance/quality control
- Updating Quality Management Plan.
- Updating Communication Management Plan.
- Updating Risk Management Plan and Risk Register.
- Update SAFETEA-LU Project Management Plan.
- Update SAFETEA-LU Financial Plan.
- Procurement of resources through A&E contracts, interagency and cooperative agreements, etc. for the Construction component. Includes the following:
 - Request for Qualifications (RFQ) or Proposal (RFP).
 - Selection of consultant.
 - Contract negotiation.
 - Contract execution.
 - Contract management.

End Product(s)

- Updated Project Management Plan
- Project records, in accordance with Section 5-102 of the Construction Manual

100.20.15 Construction Component Close Out

Includes the process of formally bringing the construction component to an end.

Guidance

- A Guide to the Project Management Body of Knowledge (PMBOK);
- Section I: Chapter 3 & Section II: Chapter 10; 10.4 & Chapter 12; 12.6
- Service Contracts Manual; Chapters 4, 7, & 17
- Project Management Control System (PMCS) User Manual
- Project Management Data Warehouse Handbook
- Project Management Directives; PMD's 001, 003R, 004 & 12R4
- Project Management Handbook, Fifth Edition, 10/01/07; Chapter 3 & 4
- Project Development Procedures manual (PDPM), Chapter 8, Section 6
- Capital Project Workplan Handbook, First Edition, Sept. 2010

Sub-Tasks

- Finalize any contracts or agreements that are completed.
- Conduct Close-out Meeting with Project Development Team (Including Constructability Review Close-out Meeting)
- Sponsor, team, and stakeholder evaluations of project.
- Document lessons learned for project.
- Resident Engineer completes the "Project Performance Output Table" and the "Asset Management Table". For guidance contact the appropriate Headquarters SHOPP Manager.
- Archive project files.
- The project is complete, and the project can be closed out, when the Construction component, the Right of Way component (including excess property disposal), post-construction Environmental mitigation, and any other necessary actions are finished.

- Resident Engineer completes “Project Performance Output Table” and “Asset Management Table”. For guidance contact the appropriate Headquarters SHOPP Manager.
- Project close out report.

End Product(s)

- Cooperative Agreement close-out
- Lessons Learned
- Archived records
- Updated “Project Performance Output Table” and “Asset Management Table”
- Close out of Project Phases ‘3’ and ‘4’,
- Updated “Project Performance Output Table” and “Asset Management Table”

Note: The project is complete when the Construction component, the Right of Way component (including excess property disposal), post-construction Environmental mitigation, and any other necessary actions are finished.

100.20.20 Project Shelving (Construction)

Includes all efforts related to bringing a project and its associated files, designs, and other materials to neat closure at any point prior to full completion/closeout of the Construction phase.

100.20.25 Project Unshelving (Construction)

Includes all efforts related to reinitiating Construction phase efforts for a project that was previously shelved prior to full completion of the Construction phase.

100.20.30 Updated Administrative Record and Support for Legal Challenges during Construction

Includes all efforts related to preparing or updating the Administrative Record for a project, as well as providing support for legal challenges, during the Construction phase.

100.20.35 Executed Cooperative Agreement for Construction

All work involved in preparing and obtaining approval of cooperative-type agreements to be able to begin a construction contract. This task includes cooperative agreements, which cover multi-phases, which may begin with but may not be limited to the Construction phase. Construction work covered includes WBS tasks in 270, 285, 290, and 295.

Guidance

- Cooperative Agreement Manual
- Project Development Procedures Manual (PDPM), Chapter 13,
- Article 3; Chapter 16, All

Sub-Tasks

- Cooperative Agreement Report
- Cooperative Agreements for Construction and Construction Engineering
- Interagency Agreements
- Joint Power Agreements
- Escrow Agreements
- Contribution Agreements
- Memorandum of Understanding

- Preparation of a Draft Cooperative Agreement
- Review of a Draft Cooperative Agreement
- Preparation and Execution of a Final Cooperative Agreement

End Product(s)

- Approval of all necessary Cooperative Agreement(s) to begin construction

100.20.99 Other Project Management Construction Products

All other work, during the Project Management Construction process, not defined or covered in other 120 elements.

100.25 Project Management - Right of Way Component

Includes the management of the Right of Way component from initiation through completion. The services provided include the initiation, planning, execution, control, and close out of the Right of Way component.

100.25.05 Right of Way Component Initiation and Planning

Includes the process of formally recognizing that the project should continue into the Right of Way component and the process of updating the plan to guide the execution and control of the component. This plan should cover the Right of Way component in detail.

Guidance

- Project Development Procedures Manual (PDPM), Chapter 3, Section 6

Sub-Tasks

- Updated Quality Management Plan.
- Updated Communication Management Plan.
- Updated Risk Management Plan and Risk Register.
- Work agreements for staff resources for the Right of Way component.
- Scope of work for procurement of A&E contracts/agreements for the Right of Way component.

End Product(s)

- Project Management Plan with changes made during earlier components and added detail for the Right of Way component.

100.25.10 Right of Way Component Execution and Control

The process of coordinating people and other resources to carry out the plan, and ensuring that the Right of Way component objectives are being met by monitoring progress and taking corrective action when necessary.

Sub-Tasks

- Status project. Includes the entire status process from reporting work results to updating databases. Includes updating and revising workplan during Right of Way component execution.
- Communication and distribution of project records and information. Includes responses to all internal and external requests for information about the project.
- Updating Quality Management Plan.
- Updating Communication Management Plan.
- Updating Risk Management Plan and Risk Register.

- Procurement of resources through A&E contracts, interagency and cooperative agreements, etc. for the right of way component. Includes the following:
- Request for Qualifications (RFQ) or Proposal (RFP).
- Selection of consultant.
- Contract negotiation.
- Contract execution.
- Contract management.

End Product(s)

- Updated Project Management Plan
- Right of Way records

100.25.15 Right of Way Component Close Out

Includes the process of formally bringing the Right of Way component to an end.

End Product(s)

- Cooperative Agreement close-out
- Lessons Learned
- Archived records
- Closeout of Project Phase '2' and '9'
- The project is complete, and the project can be closed out, when the Construction component, the Right of Way component (including excess property disposal), post-construction environmental mitigation, and other necessary actions are finished.

100.25.20 Project Shelving (Right of Way)

Includes all efforts related to bringing a project and its associated files, designs, and other materials to neat closure at any point prior to full completion/closeout of the Right of Way phase.

100.25.25 Project Unshelving (Right of Way)

Includes all efforts related to reinitiating R/W phase efforts for a project that was previously shelved prior to full completion/closeout of the R/W phase.

100.25.30 Updated Administrative Record and Support for Legal Challenges during Right of Way

Includes all efforts related to bringing preparing or updating the Administrative Record for a project, as well as providing support for legal challenges, during the Right of Way phase.

100.25.35 Executed Cooperative Agreement for R/W

All work involved in preparing and obtaining approval of cooperative-type agreements to be able to begin any Right of Way activities. This task includes cooperative agreements, which cover multi-phases, which may begin with but may not be limited to the R/W phase. R/W work covered includes WBS tasks in 195, 200, 220, 225, 245, and 300.

Guidance

- Cooperative Agreement Manual
- Project Development Procedures Manual (PDPM), Chapter 13, Article 3; Chapter 16, All

Sub-Tasks

None Identified.

End Product(s)

- Approval of the Cooperative Agreement(s)

100.25.50 Executed Cooperative Agreement for R/W Relinquishment

Includes all work, on an active capital project that will supersede an existing state highway, in preparing a Relinquishment Agreement/Memorandum of Understanding with the local agency to relinquish existing state facilities and any collateral facilities.

Note 1: All project development effort for relinquished facilities including traffic forecasts, material information, deflection study and PS&E preparation is to be charged to other appropriate WBS element. For effort in other highway relinquishments, activities should be captured under the District pseudo-Project ID for R/W Support (formerly EA# 0R0002).

Note 2: The relinquishment process is covered under WBS 300.25

Guidance

- Project Development Procedures Manual (PDPM), Chapter 13, Articles 3 & 7; Chapters 16 and 25, All

Sub-Tasks

- Discussions and resolutions of issues with local agency concerning relinquishment features.
- Arrange for special funding, if applicable
- Prepare a cooperative agreement for relinquishment

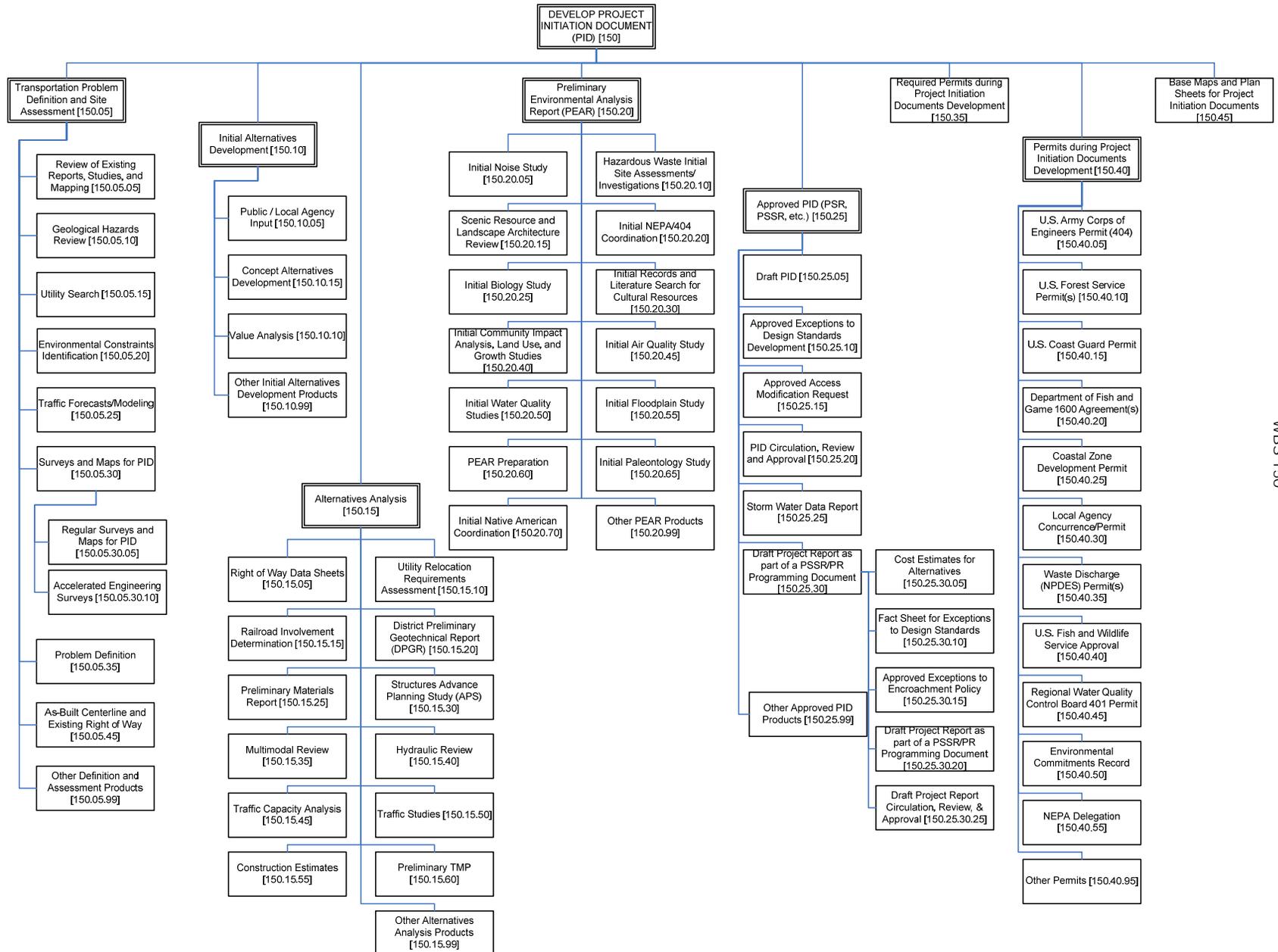
End Product(s)

- Approval of the Cooperative Agreement(s)

100.25.99 Other Project Management R/W Products

All other work, during the Project Management R/W process, not defined or covered in other 125 elements

150 Develop Project Initiation Document (PID)



150 Develop Project Initiation Document (PID)

Work involved in the preparation, review, and approval of a Project Initiation Document such as a PSR, PSSR, NBSSR, etc.

Note: Includes minor survey effort directly related to PID

150.05 Transportation Problem Definition and Site Assessment

This activity includes three major tasks:

- Compiling and reviewing existing background information that may impact the alternatives or the scope of the alternatives under consideration.
- Developing project constraints and information required to determine the extent of the existing problem and future needs. This should include any necessary discussions with internal and external stakeholders.
- Analyzing the existing problem and future requirement to determine the project's need and purpose.

End Product(s)

- Purpose and Need Statement.
- Adequate information should exist to begin developing alternatives.

150.05.05 Review of Existing Reports Studies and Mapping

This includes Planning documents (such as Transportation Corridor Report, Regional Transportation Improvement Program, Regional Transportation Program, Congestion Management Plan Tribal Transportation Plan), As-builts, base mapping, weigh in motion master plan, existing surveys and R/W maps, TASAS and Pavement Management System (PMS) adjacent projects under development. Initial field reviews are also included.

Guidance

- Project Development Procedures Manual (PDPM), Chapter 1, Sections 4 & 5; Chapter 2, All Sections
- User's Guide to Photogrammetric Services

150.05.10 Geological Hazards Review

Normally this activity is limited to a review of the existing studies and a field review of the area.

Guidance

- Project Development Procedures Manual (PDPM), Chapter 3, Section 6

150.05.15 Utility Search

Normally this activity is limited to a review of the existing plans/As-builts and a field review of the area.

Guidance

- Project Development Procedures Manual (PDPM), Chapter 3, Section 13
- Surveys Manual

150.05.20 Environmental Constraints Identification

Normally this activity is limited to a review of the existing studies and a field review of the area. However, project specific circumstances may indicate the need/advisability of more detailed investigations. The purpose of this activity is to identify and delineate any environmental resources or issues that might affect initial alternative(s) selection. Preparation of a base environmental constraints map is recommended.

Guidance

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 4](#)
- Project Development Procedures Manual (PDPM), Chapter 3, Section 2; Chapter 8, Section 6

150.05.25 Traffic Forecasts/Modeling

Analyze travel-demand model data using Regional Transportation Planning Agencies (RTPA) traffic models when available. Prepare future traffic projections for intersections, highway mainlines and ramps for project level documents. Prepare traffic indices and design designations such as traffic index and equivalent single-axle load.

Guidance

- Project Development Procedures Manual (PDPM), Chapter 3, Section 7
- Highway Design Manual (HDM) Chapter 600
- California Department of Transportation Travel Forecasting Guidelines
- NCHRP 255 Highway Traffic Data for Urbanized Area Project Planning and Design

150.05.30 Surveys and Maps for PID

When performing work under this element for the PID process 150.05.30.05 should be charged. Primary efforts are limited to compilation and delivery of existing survey and boundary information.

When requested to provide accelerated survey or right of way engineering products, products which work is normally performed during a future project phase, 150.05.30.10 should be charged.

Business Practice:

This WBS code should never be charged. WBS elements 150.05.30.05 and 150.05.30.10 should be used as appropriate.

150.05.30.05 Regular Surveys and Maps for PID

Minimal field and office survey activities to supplement products from 150.05.05 and 150.05.15. This code is not intended for performing a full engineering survey of a whole project during the K phase.

Business Practice:

Total survey time expended should be minimal; otherwise, centerline work effort should be delayed and performed under activity 160.20.65 in 0 Phase or 185.10.65 in 1 Phase. Right of Way work can be performed

under 150.15.05 when preparing cost estimate maps or should be delayed until 0 Phase and performed under 160.10.40 or 160.20.25 – 160.20.35.

Quality

Maps produced must meet all requirements as set forth in the Caltrans Surveys Manual, Sections 11.7-2 and 11.7-3, Chapter 5, and Figure 5-1.

End Product(s)

- Final products include all products listed in Caltrans Surveys Manual, Sections 11.7-2 and 11.7-3 with the following limitation:
- Intended application of this code is to tie existing data accrued during WBS 150.05.05 to correct project datum

150.05.30.10 Accelerated Engineering Surveys

This activity includes developing detailed design surveys and/or photogrammetric mapping.

Business Practice

- This project work element will only be charged when the use of alternate data sources that have 1 meter or greater vertical accuracy will not be suitable, and where risk assessment justifies the cost and time savings of early surveying/mapping. The District Chief of the Division of Transportation Planning must approve work in writing prior to start. Otherwise, work effort should be delayed and performed under activity 160.20 in 0 Phase or 185.10 in 1 Phase. If approval from Transportation Division of Planning is secured, then Source Unit for WBS 150.05.40 work should be from within District Division of Planning.

Quality

- Surveys shall meet all requirements as set forth in the Caltrans Surveys Manual, Sections, Sections 11.7-2 and 11.7-3, Chapter 5, and Figure 5-1.

End Product(s)

- Engineering Surveys products as listed in WBS 160.20.60 – 160.20.70 and 185.10.60 – 185.10.70
- Photogrammetric products as listed in WBS 160.20.55 or 185.10.55.

150.05.35 Problem Definition

Analyzing the available information to resolve the project's need and purpose and general scope. In the case of a highway project this would include determining the existing and future Level of Service (LOS) in the no build scenario, a corridor analysis to determine deliverable volumes, determining the general perimeters such as the required number of lanes, and analyzing traffic accident history.

Guidance

- Project Development Procedures Manual (PDPM), Chapter 1, Section 4; Chapter 8, Section 1

150.05.45 As-Built Centerline and Existing Right of Way

Review the existing data and preliminary surveys as necessary, to locate existing facility centerline and right of way lines. Locate existing record information such as plans, As-

builds, survey files and mapping, etc. Evaluate data. Minimal surveys as necessary to locate right of way and centerline.

Business Practice:

- Total survey time expended should be minimal; otherwise, centerline work effort should be delayed and performed under activity 160.20.65 in 0 Phase or 185.10.65 in 1 Phase. Right of Way work can be performed under 150.15.05 when preparing cost estimate maps or should be delayed until 0 Phase and performed under 160.10.40 or 160.20.25 – 160.20.35.

Quality

- For centerline location, surveys should be performed in a manner to ensure meeting Caltrans General Order standards as listed in the Caltrans Surveys Manual, Chapter 5 and Figure 5-1.

End Product(s)

- A Design Software project file and/or CADD drawing file containing preliminary centerline and/or right of way line locations based on record data and field surveys.
- Inclusion into District Centerline Alignment Log using appropriate format for district.

150.05.99 Other Definition and Assessment Products

All other work, during the problem definition and Site Assessment efforts, not defined or covered in other 150.05 elements.

150.10 Initial Alternatives Development

This activity includes identifying all potential alternatives and reaching consensus with internal/external stakeholders on the alternatives that will be addressed in the PID. This activity includes establishing the study limits of the various alternatives to be analyzed in the PID.

End Product(s)

- General scope and study limits of the alternatives determined to be carried forward for further study. These alternatives are now ready for further analysis to determine project features, cost, and cost effectiveness.

150.10.05 Public / Local Agency Input

Includes but is not limited to:

- Development of Community Action Plan
- Initial information or preliminary Scoping Meetings w/public & local agencies
- Reaching consensus on which alternatives to address in the PID

Guidance

- Project Development Procedures Manual (PDPM), Chapter 9, Article 1

150.10.10 Value Analysis (VA)

This activity includes reviewing VA procedures, identifying VA team, conducting the analysis, and recommendations to management and the Project Development Team (PDT).

Guidance

- Project Development Procedures Manual (PDPM), Chapter 19, All; Chapter 9, Article 3; Chapter 8, Section 6

150.10.15 Concept Alternatives Development

Development of the basic strategy options to meet the project need and purpose. Including developing horizontal & vertical alignment, cross sections, preliminary staging plans, strip maps, right of way requirements, rehabilitation strategies and reviews by FHWA and for all alternatives under considerations.

Guidance

- Highway Design Manual (HDM), Chapters 100 & 200
- Project Development Procedures Manual (PDPM), Chapter 9, Article 2

150.10.99 Other Initial Alternatives Development Products

All other work, during the Initial Alternatives Development efforts, not defined or covered in other 150.10 elements.

150.15 Alternatives Analysis

This activity is required to develop the necessary scope and cost of each alternative to be presented in the PID. Costs developed in this activity will be used for programming purposes; consequently, the analysis should be of sufficient detail to identify all potential costs. Also included in this activity are tasks required to assess the adequacy of the alternatives to meet the project's need and purpose.

End Product(s)

- In conjunction with 150.20 (Perform Preliminary Environmental Analysis) completion of this activity should establish project scope, cost, and feasibility for presentation in the PID and programming.

150.15.05 Right of Way Data Sheets

Includes assessing R/W requirements, obtaining public records, and preparing right of way cost estimates and Cost Estimate Maps

Business Practice:

- Departmental recommendation is for Surveys to create Cost Estimate Maps.

Quality

- Cost Estimate Maps shall meet or exceed specifications and standards as set forth in the Caltrans Right of Way Manual, Sections 4.01.04 – 4.01.08, and Caltrans Plans Preparation Manual, Section 4-2(all).

End Product(s)

- Right of Way Data Sheets
- Cost Estimate Maps (for inclusion in the Right of Way Data Sheet deliverable.)

150.15.10 Utility Relocation Requirements Assessment

Identifying utility needs, inspecting facilities and preparing utility estimate for inclusion in the Right of Way Data Sheets.

Guidance

- Right of Way Manual - Forms and Exhibits, Chapter 13
- Right of Way Manual - Reference Version, Chapter 13
- Project Development Procedures Manual (PDPM), Chapter 3, Section 13; Chapter 8, Section 7

150.15.15 Railroad Involvement Determination**Guidance**

- Right of Way Manual - Forms and Exhibits, Chapter 8
- Right of Way Manual - Reference Version, Chapter 8
- Project Development Procedures Manual (PDPM), Chapter 3, Section 4; Chapter 8, Section 7

150.15.20 District Preliminary Geotechnical Report (DPGR)

This task includes all efforts required to prepare a District Preliminary Geotechnical Report (DPGR). The effort required to prepare a DPGR typically consists of field reviews, researching existing files, literature reviews and information gathering, such as proposed plans/alternatives and location history. Sometimes limited subsurface exploration is required to provide sufficient information to produce a DPGR. The subsurface exploration can include, but isn't limited to, test borings, soundings, and/or geophysics. A typical DPGR consists of identifying the geological conditions of the proposed alternatives, existing conditions, constructability issues, and preliminary information such as cut and fill slope ratios for project cost estimating purposes.

Guidance

- Project Development Procedures Manual (PDPM), Chapter 2, Section 9; Chapter 3, Section 6; Chapter 9, Article 9; Chapter 20, Section 2
- Highway design Manual Chapter 100, Topics 113 and 114; Chapter 200, Topics 203, 208, and 210; Chapter 800, Topics 802 and 805

150.15.25 Preliminary Materials Report

Includes initial deflection study, corrosion study, and identification of need for material sites.

Guidance

- Project Development Procedures Manual (PDPM), Chapter 3, Section 6

150.15.30 Structures Advance Planning Study (APS)

This task includes all efforts required to develop, review, approve and distribute Structures Advance Planning Studies. An APS is required to identify the structures scope of work and preliminary cost. The APS is included in the Project Initiation Document.

The activities include, but are not limited to:

- Prepare Preliminary Design
- Prepare Preliminary Plan Sheets
- Prepare Structures Preliminary Geotechnical Report (SPGR)

The SPGR is used to document existing foundation conditions, make preliminary foundation recommendations, and identify the need for additional investigations and studies. Sometimes limited subsurface exploration is required to provide sufficient information to produce a SPGR. The subsurface exploration can include, but isn't limited to, test borings, soundings, and/or geophysics. The SPGR shall provide, but not be limited to, the following:

- Project Location
- Summary of Site Geology and Subsurface Conditions
- Scour Evaluation

- Corrosion Evaluation
- Preliminary seismic data and recommendations
- As-Built Foundation Data
- Preliminary Foundation Recommendations
- Additional Field Work and Laboratory Testing
- Prepare Structures Preliminary Hydraulics Report (PHR)
- Prepare Structures Preliminary Architectural and Aesthetics Report (PAAR)
- Prepare Structures Preliminary Maintenance Report (PMR)
- Prepare Preliminary Quantities
- Prepare Preliminary Estimate
- Prepare Structures Advance Planning Study package.
- Perform Constructability Review (CR) of the APS package.
- Obtain APS approval
- Distribute approved APS package for inclusion in the PID.

Guidance

- Bridge Design Aids, Sections 10 & 11
- Bridge Design Details, Sections 1-3
- Bridge Design Memos to Designers, Sections 1, 2, & 17
- Bridge Design Specifications, All Sections
- OSFP Information & Procedures Guide, Chapter 3-02
- Pumping Plant Design Manual, Appendix 7
- Project Development Procedures Manual (PDPM), Chapter 3, Section 8
- Guidelines for Structure Foundation Reports, Chapter 2.

150.15.35 Multimodal Review

This review should address temporary construction and permanent impacts as well as possible improvements to:

- Pedestrian facilities
- Bicycle facilities
- Transit facilities
- Park and Rides
- Equestrian Facilities
- Weight/Inspection Facilities
- Rest Area Facilities

Guidance

- Project Development Procedures Manual (PDPM), Chapter 3, Section 7; Chapter 8, Section 7; Chapter 31, All

150.15.40 Hydraulic Review

Includes review and inspection of existing facilities to determine the need to upgrade or replace the existing drainages system (includes culvert inspection study).

Guidance

- Project Development Procedures Manual (PDPM), Chapter 3, Section 9

150.15.45 Traffic Capacity Analysis

Includes the use macroscopic and/or micro-simulation modeling, as appropriate, to perform traffic capacity analysis on existing and future year project specific State highways. Includes integrating, as appropriate, ramp metering, HOV lanes and intelligent transportation system needs.

Guidance

- California Manual on Uniform Traffic Control Devices Highway Capacity Manual
- HOV Guidelines
- Ramp Metering Design Guidelines
- Project Development Procedures Manual (PDPM), Chapter 3, Section 7; Chapter 8, Section 7
- Caltrans Guidelines for Applying Traffic Microsimulation Modeling Software
- FHWA Vol. III Guidelines for Applying Traffic Microsimulation Model Software

150.15.50 Traffic Studies

These studies include:

- Prepare preliminary traffic design
- Perform traffic operational and safety analysis
- Traffic system and signal system review
- Perform Skid Tests

Guidance

- Traffic Manual, Ch.7
- Highway Capacity Manual
- HOV Guidelines
- Ramp Metering Design Guidelines
- Traffic Bulletins
- California Manual on Uniform Traffic Control Devices Project Development Procedures Manual (PDPM), Chapter 3, Section 7; Chapter 8, Section 7

150.15.55 Construction Estimates

The Construction Estimates are used to program the project. The estimates include (and may include other items depending upon the project features):

- Adequate scoping for each alternative
- Worst case scenario
- Reconstruction of existing features
- Right of Way costs, including utility relocation
- Mitigation costs for hazardous materials and other environmental impacts
- Existing and forecasted traffic
- Geotechnical design, especially foundation and slope stability features
- Materials
- Pavement structural sections design
- Noise barriers
- Retaining walls
- Major storm drains
- Proposed Structures
- Traffic handling and traffic management

- Recycling

Guidance

- Project Development Procedures Manual (PDPM), Chapter 3, Sec. 10; Chapters 6 & 20
- Draft Workflow Task Manual.

150.15.60 Preliminary Transportation Management Plan

This plan includes:

- Review and approval of TMP Data Sheet
- Prepare itemized estimate of proposed TMP strategies and their respective costs for the Project Initiation Document
- Identify TMP elements that need to be in place prior to start of construction as stage construction or first order of work for CTC package
- Form and meet with TMP team, which may include the District TMP Manager, District Traffic Manager (DTM), Project Engineer (PE), and the Maintenance representative.
- Coordinate lane closures for multiple projects in the same area to determine impact on this project
- Coordinate major closures with neighboring Caltrans districts, CHP, and local agencies to determine impact on this project
- Update TMP/lane closure database

Guidance

- Deputy Directive 60 regarding TMP Requirements
- TMP Guidelines
- Traffic Manual, Ch.7
- Highway Capacity Manual
- HOV Guidelines
- Ramp Metering Design Guidelines
- Traffic Bulletins
- California Manual on Uniform Traffic Control Devices Project Development Procedures Manual (PDPM), Chapter 3, Section 7; Chapter 8, Section 7

150.15.99 Other Alternatives Analysis Products

All other work, during the Alternatives Analysis efforts, not defined or covered in other 150.15 elements.

150.20 Preliminary Environmental Analysis Report (PEAR)

The Preliminary Environmental Analysis Report (PEAR) identifies the potential environmental impacts of each alternative, as well as potential mitigation costs. Although existing data will most frequently be used in the preparation of this report, project specific circumstances may indicate the need for or advisability of conducting more detailed investigations. Costs developed in this activity will be used for programming purposes; consequently, the analysis should be of sufficient detail to identify all potential costs. For those projects where the initiation document is combined with the project report/environmental document (such as PSSRs and PSR/PR), this activity also includes those tasks required for the environmental document.

End Product(s)

- The PEAR provides the results of project specific preliminary environmental analyses performed by an interdisciplinary team of environmental and associated specialists. It contains a bottoms-up determination of projected time and an estimate of support resource needs associated with completing the environmental compliance tasks (WBS 165, 175, 180, 235) for a proposed project.

150.20.05 Initial Noise Study

Guidance

- Standard Environmental Reference (SER) - Environmental Handbook Vol.1, Chap. 12
- Preliminary Environmental Analysis Report Handbook
- Traffic Noise Analysis Protocol and Technical Noise Supplement
- Project Development Procedures Manual (PDPM), Chapter 3, Section 2; Chapter 9, Article 9; Chapter 30, All

150.20.10 Hazardous Waste Initial Site Assessments/Investigations

End Product(s)

- Hazardous waste Initial Site Assessment (ISA). An ISA is required for all projects. This information is required in order to complete the PEAR and PID. Additionally, for “high risk” sites, as assessed by the Hazardous Waste Technical Specialist, it is strongly recommend that a Preliminary Site Investigation (PSI) at least be started during the K Phase.

Note 1: This work may be done through the consultant contract process. Consultant selection and administration activities should be captured under WBS 100.10.

Guidance

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 10](#)
- [Preliminary Environmental Analysis Report Handbook](#)
- Project Development Procedures Manual (PDPM), Chapter 3, Section 2; Chapter 18, All

150.20.15 Scenic Resource and Landscape Architecture Review

This task includes two subtasks: a Scenic Resource Review and a Landscape Architectural Review.

The Scenic Resource Review looks at the proposed project to determine if scenic resources exist within the project limits, and whether these resources will be impacted by the proposal.

For projects on the State Highway System, the following information is collected:

- Verification of information from the RTP stage;
- Identification of possible scenic resources and the project’s potential visual impact(s);
- Identification of possible mitigation measures and preliminary costs to be included in the PSR estimate (e.g., special grading requirements, architectural features on bridges and walls, urban street amenities, landscape treatment, right-of-way requirements)
- Identification of Officially Designated State Scenic Highways in the project area

- Public input is solicited during this phase to address local concerns and integrate appropriate design features through a ‘context sensitive solutions’ approach per Director's Policy DP-22.
- For projects off the State Highway System, a Preliminary Environmental Study (PES) form is completed.

The Landscape Architectural Review typically includes recommendations regarding:

- Design strategies that integrate the project with the surrounding environment.
- Erosion control, slope design, and Storm Water Data Report recommendations.
- Replacement Highway Planting and Mitigation Planting requirements
- Integration with the Comprehensive Corridor Plan, if available
- Traveler and Worker Safety
- Preservation of Historic Period Landscapes

Guidance

- Project Development Procedures Manual (PDPM) Chapter 3, Section 12; Chapter 29, All.
- Highway Design Manual (HDM) Chapter 900
- Storm Water Project Planning and Design Guide (PPDG)
- Highway Design Manual (HDM) Chapter 890
- Standard Environmental Reference (SER) Chapter 27

150.20.20 Initial NEPA/404 Coordination

Includes Pre-Consultation with appropriate resource agencies in order to reach consensus on need and purpose, avoidance alternatives, and feasible alternatives.

Guidance

- [Guidance Papers on Implementation of NEPA/404 MOU](#)
- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 15](#)
- [Project Development](#) Procedures Manual (PDPM), Chapter 2, Sections 6 & 7, Article 2

150.20.25 Initial Biology Study

Guidance

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 14](#)
- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 3, Chap. 2 Preliminary Environmental Analysis Report Handbook](#)
- Project Development Procedures Manual (PDPM), -Chapter 3, Section 2; Chapter 8, Section 6

150.20.30 Initial Records and Literature Search for Cultural Resources

Guidance

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 4](#)
- [Preliminary Environmental Analysis Report Handbook](#)
- Project Development Procedures Manual (PDPM), Chapter 3, Section 2; Chapter 8, Section 6

150.20.40 Initial Community Impact Analysis Land Use and Growth Studies**Guidance**

- [Standard Environmental Reference \(SER\) - Environmental Handbook, Vol. 4](#)
- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 24](#)
- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 25](#)
- [Preliminary Environmental Analysis Report Handbook](#)
- Project Development Procedures Manual (PDPM), Chapter 3, Section 2; Chapter 8, Section 6

150.20.45 Initial Air Quality Study**Guidance**

- [Preliminary Environmental Analysis Report Handbook](#)
- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 11](#)
- Project Development Procedures Manual (PDPM), Chapter 3, Section 2; Chapter 8, Section 6

150.20.50 Initial Water Quality Studies**Guidance**

- [Preliminary Environmental Analysis Report Handbook](#)
- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 9](#)
- Project Development Procedures Manual (PDPM), Chapter 3, Section 2; Chapter 8, Section 6

150.20.55 Initial Floodplain Study**Guidance**

- [Preliminary Environmental Analysis Report Handbook](#)
- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1 Chap. 17](#)
- Project Development Procedures Manual (PDPM), Chapter 3, Section 2; Chapter 8, Section 6

150.20.60 PEAR Preparation

Prepare Preliminary Environmental Analysis Report (PEAR) or a Categorical Exemption/Categorical Exclusion (CE/CE) for qualifying projects where the PID is combined with the project report/environmental document.

Guidance

- [Preliminary Environmental Analysis Report Handbook](#)
- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 5](#)
- Project Development Procedures Manual (PDPM), Chapter 3, Section 2; Chapter 8, Section 6

150.20.65 Initial Paleontology Study**Guidance**

- [Preliminary Environmental Analysis Report Handbook](#)
- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 8](#)
- Project Development Procedures Manual (PDPM), Chapter 3, Section 2; Chapter 8, Section 6

150.20.70 Initial Native American Coordination**Guidance**

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1](#)
[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 2, Chap. 3](#)
- Project Development Procedures Manual (PDPM), Chapter 3, Section 2; Chapter 8, Section 6

150.20.99 Other PEAR Products

All other work, during the PEAR efforts, not defined or covered in other 150.20 elements.

150.25 Approved PID (PSR, PSSR, etc.)

This activity includes all tasks required to develop the PID text and exhibits, as well as the effort required to circulate, review and update the PID (includes appropriate “Constructability Review” for project initiation component). This activity also includes development and approval of any required design exceptions and /or a FHWA access modification request. It also includes the development and approval of any supplemental PIDs.

End Product(s)

- This activity is complete with the approval and distribution of the PID.

Guidance

- Project Development Procedures Manual (PDPM), Chapter 4, 6 & 9, All Sections
- Highway Design Manual (HDM), Chapter 80, Topic 82
- DD23 Special Funded Projects

150.25.05 Draft PID**150.25.10 Approved Exceptions to Design Standards Development****Guidance**

- Highway Design Manual (HDM), Chapter 80, Topic 82
- Project Development Procedures Manual (PDPM), Chapter 9, Article 3; Chapter 21, All

150.25.15 Approved Access Modification Request**Guidance**

- Project Development Procedures Manual (PDPM), Chapter 9, Article 3; Chapter 27, All

150.25.20 PID Circulation Review and Approval

This includes the PSSR Scoping Team field review and appropriate Constructability Review.

Guidance

- Project Development Procedures Manual (PDPM), Chapter 4 & 9, All Sections, Chapter 8, Section 6

150.25.25 Storm Water Data Report**Guidance**

- Project Planning and Design Guide (PPDG), Section 5; Appendix E

150.25.30 Draft Project Report as part of a PSSR/PR Programming Document

If this project uses a combined PR/PSSR and only has Categorical Exemption/Exclusion required, the draft Project Report is itself the Final Project Report, and WBS 180 should not be used. This activity includes all tasks required to develop the text, exhibits and cost estimate required for a Draft Project Report. This activity includes development and approval of any design exceptions.

End Product(s)

This activity is complete where no Draft Environmental Document is required, and is the final Project Report and acts as the programming document.

150.25.30.05 Cost Estimates for Alternatives**Guidance**

- Project Development Procedures Manual (PDPM), Chapters 6 & 20, All; Chapter 8, Section 6

150.25.30.10 Fact Sheet for Exceptions to Design Standards**Guidance**

- Highway Design Manual (HDM), Chapter 80, Topic 82
- Project Development Procedures Manual (PDPM), Chapter 10, Section 2; Chapter 21, All

150.25.30.15 Approved Exceptions to Encroachment Policy**Guidance**

- Project Development Procedures Manual (PDPM), Chapter 17, All

150.25.30.20 Draft Project Report as part of a PSSR/PR Programming Document**Guidance**

- Project Development Procedures Manual (PDPM), Chapter 10, Section 5;

150.25.30.25 Draft Project Report Circulation Review & Approval**Guidance**

- Project Development Procedures Manual (PDPM), Chapter 10, All Sections

150.25.99 Other Approved PID Products

All other work, during the Approved PID efforts, not defined or covered in other 150.25 elements.

150.35 Required Permits during Project Initiation Documents Development

This activity includes all work, normally prior to approval of the combined PR/PSSR, required in order to determine what permits may or may not be required.

Note: This does not include coordination with resource agencies covering the scoping and NEPA/404 MOU process covered under activities 150.10.05, 150.20.20, 165.05.10, and 165.15.15.

Guidance

- Standard [Environmental Reference \(SER\)](#)
- Project Development Procedures Manual (PDPM), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles 1 & 2

End Product(s)

- A list of what specific permits are required and from what agency and/or a memo to file of what permits were considered but not pursued and for what reason.

150.40 Permits during Project Initiation Documents Development

All work involved in obtaining permits for combined PR/PSSR, including:

- Discussions and negotiations with the permitting agency.
- Preparation of the permit and attachments such as exhibits, maps, etc.
- Obtain funds for any required permit fee.
- Submit permit application.

End Product(s)

- The permits from each applicable permitting agency have been received.

150.40.05 U.S. Army Corps of Engineers Permit (404)**Guidance**

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 3, Chap. 3](#)
- Project Development Procedures Manual (PDPM), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles 1 & 2

150.40.10 U.S. Forest Service Permit(s)**Guidance**

- Project Development Procedures Manual (PDPM), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles 1 & 2

150.40.15 U.S. Coast Guard Permit**Guidance**

- Project Development Procedures Manual (PDPM), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles 1 & 2

150.40.20 Department of Fish and Game 1600 Agreement(s)**Guidance**

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 3, Chap. 3](#)
- Project Development Procedures Manual (PDPM), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles 1 & 2

150.40.25 Coastal Zone Development Permit**Guidance**

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 18](#)
- Project Development Procedures Manual (PDPM), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles 1 & 2

150.40.30 Local Agency Concurrence/Permit

Includes coordination necessary to obtain concurrence from the appropriate local agencies when state highway construction impacts existing local facilities.

Guidance

- Project Development Procedures Manual (PDPM), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles 1 & 2

150.40.35 Waste Discharge (NPDES) Permit(s)

Includes all effort needed to obtain a National Pollutant Discharge Elimination System (NPDES) permit.

Guidance

- Project Development Procedures Manual (PDPM), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 8, Section 7; Chapter 13, Articles 1 & 2

150.40.40 U.S. Fish and Wildlife Service Approval**Guidance**

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 18](#)
- Project Development Procedures Manual (PDPM), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles 1 & 2

150.40.45 Regional Water Quality Control Board 401 Permit**Guidance**

- Project Development Procedures Manual (PDPM), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles 1 & 2

150.40.50 Environmental Commitments Record

Prepare and/or update the Environmental Commitments Record (ECR) and its associated documentation (e.g., Mitigation Monitoring and Reporting Record (MMRR) or Permits, Agreements and Mitigation (PAM)) **for combined PR/PSSR projects**. In the case of a CE, transmit to Design for inclusion into the PS&E package. The ECR (which should be initiated/updated at WBS 150.40.50, 165.10.75, 180.15.20, 235.05.15, 235.40, 255.15, 255.40, 260.75, 270.70, 295.35, and 295.40) is used as a part of the Environmental input for the RE Pending File (255.40), Environmental Certification at RTL (260.15.15), and the Certificate of Environmental Compliance (295.35).

Guidance

- [Standard Environmental Reference \(SER\) – Environmental Handbook Vol. 1, Chapter 39](#)

150.40.55 NEPA Delegation

Includes all pre-WBS 165 environmental work previously performed by FHWA, but which is now the Department's responsibility as a result of full NEPA delegation from FHWA under SAFETEA-LU.

Guidance

- [Standard Environmental Reference](#)
- FHWA California Division Home Page

150.40.95 Other Permits

Includes all permits not listed above, such as Bay Conservation and Development Commission (BCDC) permit, Tahoe Regional Planning Agency (TRPA) permit, and flood control district permits.

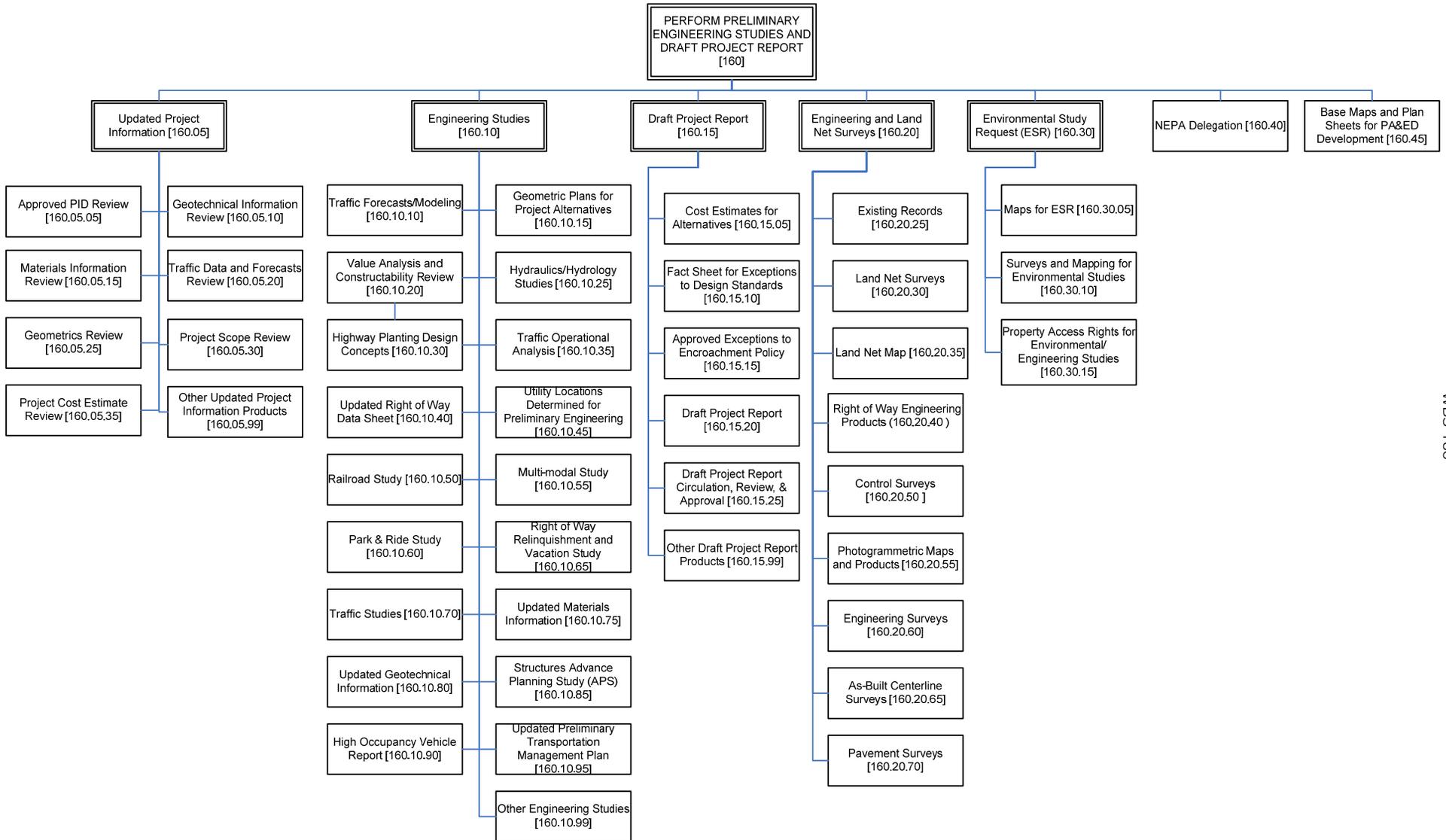
Guidance

- Project Development Procedures Manual (PDPM), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles 1 & 2

150.45 Base Maps and Plan Sheets for Project Initiation Documents

Work involved in the preparation of exhibits, geometric base maps and functional base plan sheet required for the PID development efforts.

160 Perform Preliminary Engineering Studies and Draft Project Report



160 Perform Preliminary Engineering Studies and Draft Project Report

Work involved in conducting preliminary engineering studies used in the development of a draft Project Report (PR) and a final Environmental Study Request (ESR). Work may include survey work and preliminary field studies directly related to the PR and ESR. Support from Environmental units is also covered.

Note: For projects not requiring a Draft Environmental Document, the final product of this activity is actually the Project Report.

160.05 Updated Project Information

This activity includes review of the information assembled and developed during the PID, as well as a preliminary assessment of what additional information may be required during the project report and environmental document development.

End Product(s)

- Understanding of project need and purpose, scope, cost and what additional studies may be required during the Project Report development.

160.05.05 Approved PID Review

Guidance

- [Project Development Procedures Manual \(PDPM\), Chapter 10, Section1](#)

160.05.10 Geotechnical Information Review

Guidance

- [Project Development Procedures Manual \(PDPM\), Chapter 8, Section 7; Chapter 10, Section1](#)

160.05.15 Materials Information Review

Guidance

- [Project Development Procedures Manual \(PDPM\), Chapter 8, Section 7; Chapter 10, Section1](#)

160.05.20 Traffic Data and Forecasts Review

Guidance

- [Project Development Procedures Manual \(PDPM\), Chapter 8, Section 7; Chapter 10, Section1](#)

160.05.25 Geometrics Review

Guidance

- Highway Design Manual (HDM), Chapters 100 & 200
- [Project Development Procedures Manual \(PDPM\), Chapter 10, Sections 1 & 2](#)

160.05.30 Project Scope Review**Guidance**

- [Project Development Procedures Manual \(PDPM\), Chapter 8, Section 7; Chapter 10, Section 1](#)

160.05.35 Project Cost Estimate Review**Guidance**

- [Project Development Procedures Manual \(PDPM\), Chapter 10, Section 1; Chapters 6 & 20, All](#)

160.05.99 Other Updated Project Information Products

All other work, during the Updated Project Information efforts, not defined or covered in other 160.05 elements.

160.10 Engineering Studies

This activity includes developing in more detail or updating those studies initiated during the PID. It also includes those additional engineering studies required to address new alternatives or revisions developed during the environmental process.

End Product(s)

- Refinement of project alternatives, and further design of all project features adequate for detailed discussion of project impacts in the environmental document and suitable for the initiation of final design.

160.10.10 Traffic Forecasts/Modeling

Includes all activities necessary to update and expand any previously completed travel Forecast effort under WBS 150.05.25. Analyze travel-demand model data using Regional Transportation Planning Agencies (RTPA) traffic models when available. Prepare future traffic projections for intersections, highway mainlines and ramps for project level documents. Prepare traffic indices and design designations such as traffic index and equivalent single-axle load.

Guidance

- [Project Development Procedures Manual \(PDPM\), Chapter 3, Section 7](#)
- Highway Design Manual (HDM) Chapter 600
- California Department of Transportation Travel Forecasting Guidelines
- NCHRP 255 Highway Traffic Data for Urbanized Area Project Planning and Design

160.10.15 Geometric Plans for Project Alternatives

This includes horizontal and vertical alignments, cross sections, typical sections, construction staging/detours and building plans.

Guidance

- Highway Design Manual (HDM), Chapters 100 & 200
- [Project Development Procedures Manual \(PDPM\), Chapter 10, Sections 1 & 2](#)

End Product(s)

- Geometric Plans for Project Alternatives.
- Exceptions to Design Standards

160.10.20 Value Analysis**Guidance**

- [Project Development Procedures Manual \(PDPM\), Chapter 19, All; Chapter 9, Article 3; Chapter 8, Section 6](#)

160.10.25 Hydraulics/Hydrology Studies**Guidance**

- [Project Development Procedures Manual \(PDPM\), Chapter 8, Sections 7](#)

160.10.30 Highway Planting Design Concepts

Includes mitigation planting, replacement planting, and new planting.

Guidance

- [Project Development Procedures Manual \(PDPM\), Chapter 3, Section 12; Chapter 9, Article 7; Chapter 29, All](#)

160.10.35 Traffic Operational Analysis

Evaluate the level of service that will result from alternative improvements to a facility. Includes all activities necessary to update and expand any previously completed traffic capacity analysis (WBS 150.15.45). Includes the use of macroscopic and/or micro-simulation modeling, as appropriate, to perform traffic capacity/operational analysis on existing and future year project specific needs for State highways. Includes integrating, ramp metering, HOV lanes and intelligent transportation system needs the operational impacts of various improvements are estimated and compared as a basis for decisions making and evaluation of proposed alternatives.

Guidance

- Highway Capacity Manual
- HOV Guidelines
- Ramp Metering Design Guidelines
- Traffic Bulletins
- California Manual on Uniform Traffic Control Devices Project Development Procedures Manual (PDPM), Chapter 3, Section 7; Chapter 8, Section 7
- Caltrans Guidelines for Applying Traffic Microsimulation Modeling Software
- FHWA Vol. III Guidelines for Applying Traffic Microsimulation Model Software

160.10.40 Updated Right of Way Data Sheet

Includes assessing R/W requirements, obtaining public records, and preparing or updating right of way cost estimates and Cost Estimate Maps

Business Practice:

- Departmental recommendation is for Surveys to create Cost Estimate Maps.

Quality

- Cost Estimate Maps shall meet or exceed specifications and standards as set forth in the Caltrans Plans Preparation Manual, Section 4-2(all).

End Product(s)

- Right of Way Data Sheets
- Cost Estimate Maps (part of the Right of Way Data Sheet deliverable.)

160.10.45 Utility Locations Determined for Preliminary Engineering

Updated Utility Estimates, Utility Verification Maps, Verified Utility Locations transferred to plan sheet, Request for Pothole (Pos Loc), Pothole plan, Task Orders, Notice to Owner to Pothole, Report of Investigation to Pothole, Utility Agreement to Pothole, Potholed facility Information transferred to plan sheets, and Utility Survey.

Guidance

- Right of Way Manual - Forms and Exhibits, Chapter 13
- Right of Way Manual - Reference Version, Chapter 13
- [Project Development Procedures Manual \(PDPM\), Chapter 3, Section 13; Chapter 8, Section 7](#)

For Utility Surveys**Business Practice:**

When Potholing activities are required to locate utility facilities the recommended procedure is:

- Caltrans representative, normally from Design or Utilities, is present during the potholing efforts. Representative will set reference points to the uncovered utilities noting the horizontal and vertical offsets between reference point and utility.
- Surveys will respond immediately, upon notification that reference points to utilities are set, tie the locations of reference points, calculate location of utilities, and provide information to requestor.
- This procedure will eliminate the need for survey crews to stand-by while utilities are being uncovered.

Quality

- Surveys must meet all requirements as set forth in the Caltrans Surveys Manual, Section 11.7-5.

End Product(s)

- As defined in Caltrans Surveys Manual, Section 11.7-5. Products should be delivered in a design of software project file containing three-dimensional location of tied utility facilities.

160.10.50 Railroad Study**Guidance**

- Right of Way Manual - Forms and Exhibits, Chapter 8
- Right of Way Manual - Reference Version, Chapter 8
- [Project Development Procedures Manual \(PDPM\), Chapter 3, Section 4; Chapter 8, Section 7](#)

160.10.55 Multi-modal Study

This review should address temporary construction and permanent impacts as well as possible improvements to:

- Pedestrian facilities
- Bicycle facilities
- Transit facilities
- Equestrian Facility
- Weight/Inspection Facilities

- Rest Area Facilities

Guidance

- [Project Development Procedures Manual \(PDPM\), Chapter 8, Section 7; Chapter 31, All](#)

160.10.60 Park & Ride Study

Guidance

- [Project Development Procedures Manual \(PDPM\), Chapter 8, Section 7](#)

160.10.65 Right of Way Relinquishment and Vacation Study

Guidance

- [Project Development Procedures Manual \(PDPM\), Chapter 13, Articles 6 & 7; Chapter 25, All](#)

160.10.70 Traffic Studies

This Includes:

- Prepare preliminary traffic design
- Perform Safety Analysis
- Traffic system and signal system review
- Determine need for weigh in motion facility

Guidance

- Traffic Manual, Ch.7Highway Capacity Manual
- HOV Guidelines
- Ramp Metering Design Guidelines
- Traffic Bulletins
- California Manual on Uniform Traffic Control Devices
- [Project Development Procedures Manual \(PDPM\), Chapter 3, Section 7; Chapter 8, Section 7](#)

160.10.75 Updated Materials Information

Includes identification of Material sites and any required lab testing.

Guidance

- [Project Development Procedures Manual \(PDPM\), Chapter 3, Section 6](#)

160.10.80 Updated Geotechnical Information

This task includes preparation of the District Preliminary Geotechnical Report (DPGR) if it is not done during the PID phase (i.e. WBS 150.15.20). If the DPGR is completed for the project in the earlier component, then use this element to plan the effort needed to update or supplement DPGR should additional project information become available

Guidance

- [Project Development Procedures Manual \(PDPM\), Chapter 2, Section 9; Chapter 3, Section 6; Chapter 9, Article9; Chapter 20, Section 2](#)
- Highway design Manual Chapter 100, Topics 113 and 114; Chapter 200, Topics 203, 208, and 210; Chapter 800, Topics 802 and 805

160.10.85 Structures Advance Planning Study (APS) and Preliminary Engineering

This task includes all efforts required to prepare or update a Structures Advance Planning Study. Efforts include the development, review, approval and distribution of the APS. An APS is required to identify the structures scope of work and preliminary cost. The activities include, but are not limited to:

- Prepare Preliminary Design
- Prepare Preliminary Plan Sheets
- Prepare Structures Preliminary Geotechnical Report (SPGR)
 - The SPGR is used to document existing foundation conditions, make preliminary foundation recommendations, and identify the need for additional investigations and studies. Sometimes limited subsurface exploration is required to provide sufficient information to produce a SPGR. The subsurface exploration can include, but isn't limited to, test borings, soundings, and/or geophysics. The SPGR shall provide, but not be limited to, the following:
 - Project Location
 - Summary of Site Geology and Subsurface Conditions
 - Scour Evaluation
 - Corrosion Evaluation
 - Preliminary seismic data and recommendations
 - As-Built Foundation Data
 - Preliminary Foundation Recommendations
 - Additional Field Work and Laboratory Testing
- Prepare Structures Preliminary Hydraulics Report (PHR)
- Prepare Structures Preliminary Architectural and Aesthetics Report (PAAR)
- Prepare Structures Preliminary Maintenance Report (PMR)
- Prepare Preliminary Quantities
- Prepare Preliminary Estimate
- Prepare Structures Advance Planning Study package.
- Perform Constructability Review (CR) of the APS package.
- Obtain APS approval
- Distribute approved APS package for inclusion in the PID.

Guidance

- Bridge Design Aids, Sections 10 & 11
- Bridge Design Details, Sections 1-3
- Bridge Design Memo to Designers, Sections 1, 2, & 17
- Bridge Design Specifications
- OSFP Information & Procedures Guide, Section 3-2 [Project Development Procedures Manual \(PDPM\), Chapter 3, Section 8](#)
- Guidelines for Structure Foundation Reports, Chapter 2

160.10.90 High Occupancy Vehicle Report

Efforts required for preparing a High Occupancy Vehicle (HOV) Report.

Guidance

- [Project Development Procedures Manual \(PDPM\), Chapter 3, Section 7; Chapter 8, Section 7](#)

160.10.95 Updated Preliminary Transportation Management Plan (TMP)

Efforts required for preparing or updating Preliminary Transportation Management Plan (TMP) which efforts includes:

- Refine estimate of proposed TMP strategies (from the PID component) and their respective costs
- Determine feasibility of using surface streets for traffic diversion
- Develop traffic handling plans with local agencies
- Review and update TMP Data Sheet
- Coordinate lane closures for multiple projects in the same area to determine impact on this project
- Coordinate major closures with neighboring districts, H, and local agencies to determine impact on this project
- Coordination with TMP team (TMP Manager, DTM, PE, and Maintenance).
- Begin preparation of traffic contingency plan
- Update TMP/lane closure database
- Place/adjust traffic signs and devices

Guidance

- Deputy Directive 60 regarding TMP Requirements
- TMP Guidelines
- Traffic Manual, Ch.7Highway Capacity Manual
- HOV Guidelines
- Ramp Metering Design Guidelines
- Traffic Bulletins
- California Manual on Uniform Traffic Control Devices
- [Project Development Procedures Manual \(PDPM\), Chapter 3, Section 7; Chapter 8, Section 7](#)

160.10.99 Other Engineering Studies

All other work, during the Engineering Studies efforts, not defined or covered in other 160.10 elements.

160.15 Draft Project Report

This activity includes all tasks required to develop the text, exhibits and cost estimate required for a Draft Project Report. This activity includes development and approval of any design exceptions that were not addressed during the PID. If only a Categorical Exemption/Exclusion is required, the draft Project Report is in itself the Final Project Report, and WBS 180 should not be used.

End Product(s)

- This activity is complete with the approval and distribution of the Draft Project Report, any Supplemental Draft Project Reports, or in the case where no Draft Environmental Document is required, the final Project Report.

160.15.05 Cost Estimates for Alternatives**Guidance**

- [Project Development Procedures Manual \(PDPM\), Chapters 6 & 20, All; Chapter 8, Section 6](#)

160.15.10 Fact Sheet for Exceptions to Design Standards**Guidance**

- Highway Design Manual (HDM), Chapter 80, Topic 82
- [Project Development Procedures Manual \(PDPM\), Chapter 10, Section 2; Chapter 21, All](#)

160.15.15 Approved Exceptions to Encroachment Policy**Guidance**

- [Project Development Procedures Manual \(PDPM\), Chapter 17, All](#)

160.15.20 Draft Project Report**Guidance**

- [Project Development Procedures Manual \(PDPM\), Chapter 10, Section 5;](#)

160.15.25 Draft Project Report Circulation Review & Approval**Guidance**

- [Project Development Procedures Manual \(PDPM\), Chapter 10, All Sections](#)

160.15.99 Other Draft Project Report Products

All other work, during the Draft Project Report efforts, not defined or covered in other 160.15 elements.

160.20 Engineering and Land Net Surveys

Project Control Surveys, Data Surveys for Design, and Initial Land Net Mapping Control and topographic surveys for products supplied to Design, and surveys of existing land net and Right of Way Base Map development.

Business Practice:

- Work for WBS 160.20.25, 160.20.30 and WBS 160.20.35 products may be performed in part or completely under WBS 220.05.05, 220.05.10 and WBS 220.10 respectively. Regardless of which WBS element products are created under, an effort should be made to have them completed prior to receipt of Right of Way requirements (WBS 185.25).
- Work for WBS 160.20.50 – 160.20.70 products may be performed in part or completely under WBS 185.10.50 – 185.10.70 respectively. Determination of when work is performed should be based on type of project, STIP, SHOPP, Minor, etc. and Design's needs. An agreement for delivery schedule and deliverables should be negotiated with Design and filed with the project.

Quality

- Refer to Caltrans Surveys Manual, Chapters 5, 10 and 11, and Figure 5.1

End Product(s)

- Land Net Surveys
- Retracement Map
- Project Control Network
- Photogrammetric Control Surveys
- Design Software Project File
- Photogrammetric Maps and Products

160.20.25 Existing Records

Thorough research of relevant land and survey records to locate all necessary survey and land ownership records required to complete field survey (WBS 160.20.30 and/or 220.05) and for analysis, determination, an delineation of the existing land-net (WBS 160.20.35 and/or 220.10). Create the Monument Search Map for use during the Land Net Survey (WBS 160.20.30 and/or 220.05.10). Refer to Caltrans Surveys Manual, Section 10.5 (all)

Business Practice:

- Work for this product may be performed under WBS 160.20.25 or WBS 220.05.05. Charge code usage is dependent on district charging practices and opening of project phase 2 EA. Care should be taken to charge in concurrence with project resource estimate.

Quality

- Care should be taken to ensure that all relevant record documents are located and obtained to ensure proper completion of all Land Net Surveys and the Land Net Map.

End Product(s)

- Required record types and sources for those records can be found in the Caltrans Surveys Manual, Section 10.5 (all).
- Pre Land Net Survey Monument Search Map - Refer to Caltrans Surveys Manual, Section 10.6 and 10.7

160.20.30 Land Net Surveys

All activities required in performing an ownership boundary retracement survey. Search, recover, describe, and tie-in existing controlling land survey monuments, followed by observation adjustment and calculating coordinates.

Business Practice:

- Work for this product may be performed under WBS 160.20.30 or WBS 220.05.10. It is often advantageous to perform the land net survey, in part or in whole, while performing the control survey work for the engineering surveys during the 0 phase of the project. When the land net survey is performed during the 0 phase, WBS 160.20.30 should be charged. Charge code usage is dependent on district charging practices and opening of project Right of Way Support phase. Care should be taken to charge in concurrence with project resource estimate.

Quality

- All products must meet or exceed criteria as set forth in the references provided with each product listed below.

End Product(s)

- Post Land Net Survey Monument Search Map, Refer to Caltrans Surveys Manual, Section 10.10-3
- Notice of Intent to Survey, Refer to Caltrans Surveys Manual, Section 10.8
- Field Package, Refer to Caltrans Surveys Manual, Section 10.9
- Adjusted Land Net Field Survey, Refer to Caltrans Surveys Manual, Sections 5.4 (all), 10.10 (all), 10.11-5, and Figure 5.1
- Perpetuated Monuments or Evidence

- Corner Records, Refer to Caltrans Surveys Manual, Section 10.10-6, California State Land Surveyors Act, Section 8771, and the Rules of the California Board of Professional Engineers and Land Surveyors
- Monument Perpetuation List, Refer to Caltrans Surveys Manual, Section 10.10-7. List should contain all Survey and Land Net monuments that will be disturbed during any element of the project.
- Survey Documentation, Refer to Caltrans Surveys Manual, Section 10.11 (all).
- Note: If a Record of Survey is filed instead of multiple Corner Records, effort for creating and filing Record of Survey should be charged to WBS 220.05.25

160.20.35 Land Net Map

The Land Net Map depicts the condition of existing property ownership boundaries, lines, and monuments (land net). Effort entails completion of work activities required to analyze, determine, and delineate a single land net that encompasses the whole project. Refer to Caltrans Surveys Manual, Section 10-14, Caltrans Right of Way Manual, Section 06.03.02.00, and Caltrans CADD Manual, Section 2.4 E (all).

Business Practice:

- The CADD drawing file produced in this work element will be used as the base layer in subsequent project work elements (WBS 220.15, WBS 220.20, WBS 220.25, and WBS 300). Work for this product may be performed under WBS 160.20.35 or WBS 220.10. Charge code usage is dependent on district charging practices and opening of project phase 2. Care should be taken to charge in concurrence with project resource estimate. Regardless of which WBS element the Land Net Map is created under an effort should be made to have it completed prior to receipt of Right of Way requirements (Milestone 224 at finish of WBS 185.25).

Quality

- Boundary analysis and retracement of the land net will be performed in accordance with accepted professional land surveying practices and applicable laws.

End Product(s)

- CADD drawing files delineating existing property ownerships, monuments, etc.
- Delineated data includes: Record Data (WBS 220.05.05); Land Net Survey results (220.05.10); and calculated missing land net elements.

Note:

- This project element does not include calculation or delineation of new parcels or ownership lines.
- That work is performed under WBS 220.15.05

160.20.40 Right of Way Engineering Products

Creation of Deeds and supporting Right of Way Engineering documents for projects with no declared Right of Way Requirements.

This work may only be performed when resulting products will not affect selection of project alternative.

Quality

- Maps produced must meet all requirements as set forth in the Caltrans Plans Preparation Manual, Chapter 4, the Caltrans CADD Manual Section 2.4.E (all), and the Caltrans Right of Way Manual, Chapter 6. Document preparation will be

performed in accordance with accepted professional land surveying practices and applicable laws.

End Product(s)

Refer to Caltrans Plans Preparation Manual, Chapter 4, Caltrans CADD Manual Section 2.4.E (all), the Caltrans Right of Way Manual, Chapters 6 and 13. Products include but are not limited to:

- Exchange Transactions
- Correctory Deeds
- Utility Agreements (including JUA and CUA)

160.20.50 Control Surveys

Involves all facets of control survey work related to a project; bringing control from Basic (Corridor) Control and adjacent projects, establishing primary control throughout the project, establishing supplemental control for the project, and documentation of the control survey.

Business Practice:

- Horizontal project control should be created as a single adjusted network.
- The department's preferred level of accuracy for horizontal project control is 1st Order.
- Work for this product may be performed under WBS 160.20.50 or WBS 185.10.50. Charge code usage is dependent on project parameters and phase availability. Care should be taken to charge in concurrence with project resource estimate.

Quality

- Control must meet all accuracy standards and methodology requirements as set forth in the Caltrans Surveys Manual, Chapters 5, 8, 9, and Figure 5.1

End Product(s)

- Permanent project control Monumentation
- Project Control Diagram and/or Control Record of Survey
- Project Control Report
- Inclusion of control points in electronic control database

Note: Does not include control set for aerial mapping products.

160.20.55 Photogrammetric Maps and Products

Includes preparing mapping request, flight line and control distribution planning, pre-marking control survey, aero-triangulation, contract administration, 3-D compilation, map assembly, data conversion, quality control and digital terrain modeling.

Business Practice:

- Work for this product may be performed under WBS 160.20.55 or WBS 185.10.55. Charge code usage is dependent on project parameters and phase availability. Care should be taken to charge in concurrence with project resource estimate.

Quality

- Control must meet all accuracy standards and methodology requirements as set forth in the Caltrans Surveys Manual, Chapters 5, 8, 9, and Figure 5.1. For Photogrammetric Products refer to Caltrans' Users Guide to Photogrammetric Services.

End Product(s)

- Flight Line Layout
- Pre-Marking Control Survey
- Design Project File
- CADD Drawing File

160.20.60 Engineering Surveys

Includes all facets of work; research, planning, field survey, processing and adjusting data, report writing and creating Design Project File, required to perform a topographic or hydrologic surveys for delivery to Design.

Business Practice:

- Work performed during PA&ED (0 Phase) to produce all Engineering Survey products should be charged to 160.20.60. Work performed during PS&E (1 Phase) to produce all Engineering Survey products except Hydrologic Surveys and Foundation Plans should be charged to 185.10.60. During PS&E, Foundation Plans and Hydrologic Surveys for structures work should be charged to 240.55

Quality

- All products must meet or exceed criteria as set forth in the Caltrans Surveys Manual, Chapters 5 and 11, and Figure 5-1.

End Product(s)

- Design Software Project File, containing any or all of the following;
- Topography
- Structures
- Utility Locations
- Monitoring Surveys
- Vertical Clearance
- Hydrologic Surveys
- Preliminary Investigations Report
- Foundation Plan

160.20.65 As-Built Centerline Surveys

All work required locating and documenting existing facility centerline. Includes planning, research, field survey, processing and adjusting data, and preparing the As-built Centerline Alignment map.

Business Practice:

- Work for this product may be performed under WBS 160.20.65 or WBS 185.10.65. Charge code usage is dependent on project parameters and phase availability. Care should be taken to charge in concurrence with project resource estimate.

Quality

- For centerline location, surveys should be performed in a manner to ensure meeting Caltrans General Order standards as listed in the Caltrans Surveys Manual, Chapter 5 and Figure 5-1.

End Product(s)

- A Design Software project file and/or CADD drawing file containing existing centerline alignment. May also contain preliminary right of way line locations based on record data and field surveys.
- Inclusion into District Centerline Alignment Log using appropriate format for district.

160.20.70 Pavement Surveys

Includes all efforts to survey paved portion of project alignment(s).

Business Practice:

- Work for this product may be performed under WBS 160.20.70 or WBS 185.10.70. Charge code usage is dependent on project parameters and phase availability. Care should be taken to charge in concurrence with project resource estimate. This work element should be charged when only the horizontal and vertical location of paved features is to be collected. When data collected includes features other than pavement WBS 160.20.65/185.10.65 should be charged. Typically this product will be merged with the WBS 160.20.65/185.10.65 product prior to transmittal to Design.

Quality

- Refer to Caltrans Surveys Manual, Chapter 5, Figure 5-1, and Sections 11.7-1 thru 11.7-4.

End Product(s)

- Design Software Project File
- Paved Surface of the travel way

160.30 Environmental Study Request (ESR)

Includes all Environmental, Design, and Right of Way efforts necessary to develop and complete an Environmental Study Request (ESR).

Guidance

- [Memo from Chief Engineer dated 28 November 2001](#)

End Product(s)

- A complete Environmental Study Request.

160.30.05 Maps for ESR

Prepare environmental study maps for the alternatives selected for further study. This activity includes preparation of only those maps not produced as part of other activities (such as 160.10.15- Prepare Geometric Plans for Project Alternatives) that are necessary for publishing in the Environmental Documents/Determination and related technical study reports.

Guidance

- [Standard Environmental Reference \(SER\) - Environmental Handbooks Vols. 1, 2, 3, and 4](#)
- [Project Development Procedures Manual \(PDPM\), Chapter 10, Sections 3 & 4](#)

Sub-Tasks

Mapping and plans include, but may not be limited to, the following:

- Project Vicinity Map.
- Project Location Map.

- Proposed Project/Alternatives Plans.
- Project R/W and adjacent parcel mapping.
- Hydrologic and flood plain mapping.
- Seismic and environmental geology mapping

End Product(s)

- Adequate project maps for initiation of environmental studies for the alternatives selected for further study. However, this activity may continue through the environmental process to address modifications and maps required for Environmental Documents/Determinations and related technical study reports.

160.30.10 Surveys and Mapping for Environmental Studies

Perform field surveys to augment existing base mapping and to determine the location of environmental resources.

Guidance

- Surveys Manual
- User's Guide to Photogrammetric Services

Sub-Tasks

- Prepare for and perform field surveys required for environmental studies. Detailed project surveys and mapping is included in WBS 185.10.
- Provide photographs to be used in the environmental study process

End Product(s)

- Site maps for environmental studies.

160.30.15 Property Access Rights for Environmental/Engineering Studies

Obtain access to private and public lands as needed for environmental and engineering technical studies. Access may be obtained by any of the following: permits to enter; rights of entry; temporary construction easement; or other legal document.

Guidance

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1](#)
- [Joint R/W and DEA Memo Dated May 22, 2002 regarding Rights-to Enter](#)
- [Joint R/W and DEA Memo dated January 7, 2003, Clarifying Memo Dated May 22, 2002](#)
- Right of Way Manual - Forms and Exhibits, Chapter 8
- Right of Way Manual - Reference Version, Chapter 8

Sub-Tasks

- Identify properties where access is needed, and the types of studies required.
- Identify location on property where access is needed.
- Identify the type of document needed to gain access to the property.
- Determine time frame when access is required.
- Contact property owners and obtain access rights.
- Provide identification documents for field personnel to use when requesting informal entry permission.

End Product(s)

- Formal access rights (e.g. Permits to Enter, Rights of Entry, Temporary Construction Easement, Antiquities Permit, or other legal document)
- Informal entry documents - Includes verbal agreements etc.
- Personnel identification documents

160.40 NEPA Delegation

Includes all pre-WBS 165 environmental work previously performed by FHWA, but which is now the Department's responsibility as a result of full NEPA delegation from FHWA under SAFETEA-LU.

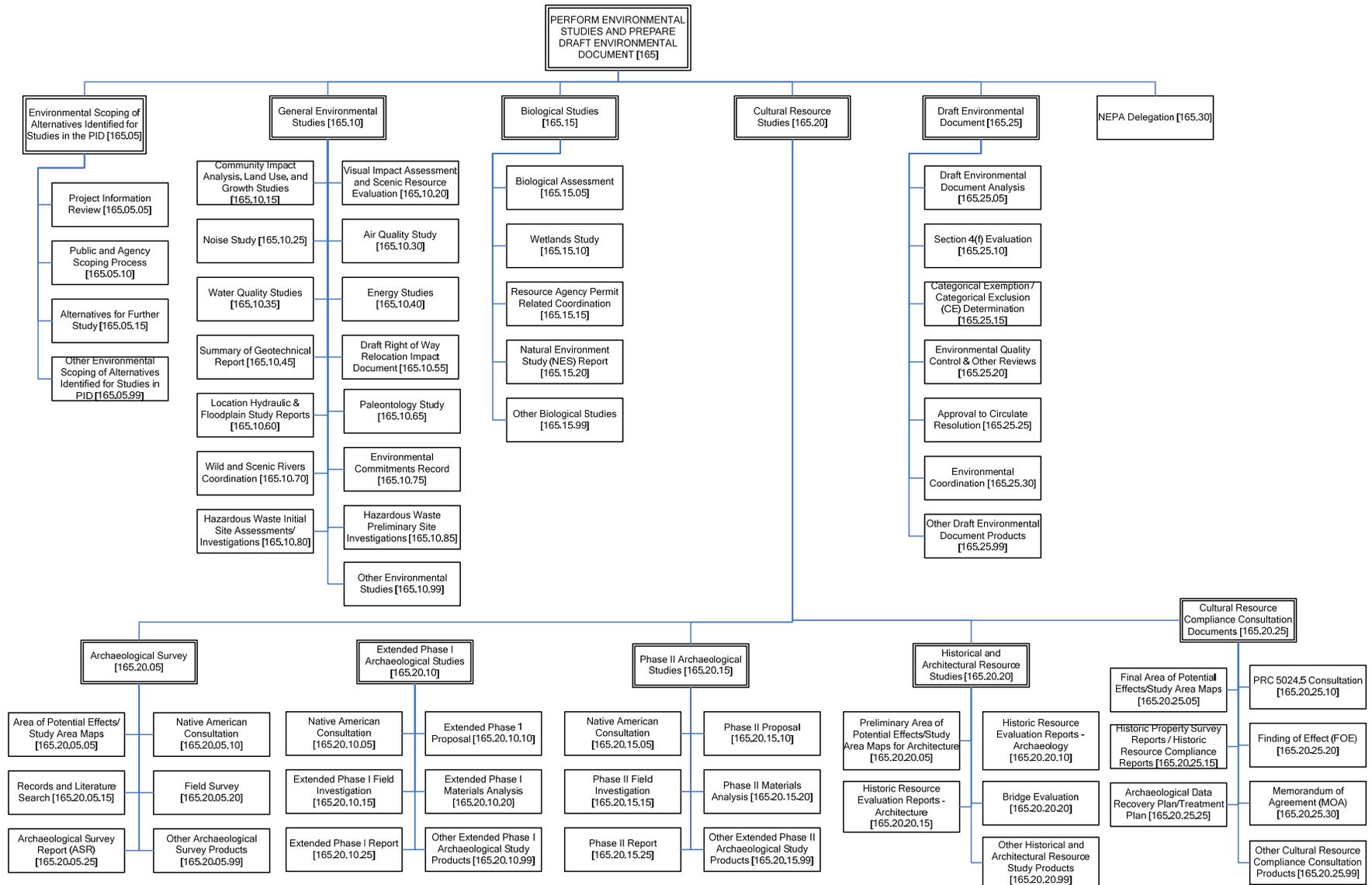
Guidance

- [Standard Environmental Reference](#)
- [FHWA California Division Home Page](#)

160.45 Base Maps and Plan Sheets for PA&ED Development

Work involved in the preparation of exhibits, geometric base maps and functional base plan sheets required for the PA&ED development efforts.

165 Perform Environmental Studies and Prepare Draft Environmental Document



165 Perform Environmental Studies and Prepare Draft Environmental Document

Work involved in performing the environmental studies needed to determine the environmental impact of a Capital Outlay Project and preparation of the Draft Environmental Document (DED). Commencement of 165 tasks cannot begin until all information required for “Begin Environmental” (WBS 160.30) has been provided or agreement to begin has been reached between the Project Manager, Environmental Branch Chief, and the Project Engineer. This DOES NOT include activities beyond study completion needed to obtain resource agency (Corps of Engineers, Fish and Wildlife, etc.) permits. These efforts should be performed under activity 170 for “0” phase efforts and 205 for “1” phase efforts.

Note: The end product of this activity is approval to circulate the CEQA/NEPA DED or approved Categorical Exemption (CE)/Categorical Exclusion (CE).

165.05 Environmental Scoping of Alternatives Identified for Studies in the PID

Environmental Scoping and Preparatory Tasks which initiate the environmental evaluation process.

End Product(s)

- Alternatives selected for environmental study.

165.05.05 Project Information Review

Obtain and examine information from prior stages in the project development process related to the environmental evaluation.

Guidance

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 37](#)
- [Project Development Procedures Manual \(PDPM\), Chapter 10, Sections 3 & 4](#)

Sub-Tasks

- Obtain and examine PID and related documents.
- Obtain and examine project plans from earlier stages.
- Discuss and verify initial Purpose and Need, Alternatives, and previous environmental evaluations with Project Manager.
- Obtain and examine RTP and RTIP listings, regional emissions analyses.
- Verify compliance with NEPA/404 MOU process at prior stages.
- Verify Clean Air Act conformity status of project and alternatives.
- Environmental Generalist/Coordinator, Field Review.
- Start Project File.

End Product(s)

- Initial Environmental Project File Setup

165.05.10 Public and Agency Scoping Process

Prepare and publish legal notices, and perform all public and agency participation tasks related to the overall environmental product prior to circulation of the Draft Environmental Document to the public.

Guidance

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 6](#)
- [Project Development Procedures Manual \(PDPM\), Chapter 10, Sections 3 & 4; Chapters 11 & 22, All](#)

Sub-Tasks

- Prepare written notification of initiation of environmental studies.
- Prepare Draft Notice of Intent (NOI) (NEPA requirement – Environmental Impacts Statement EIS only) and submit to FHWA for Federal Register publication.
- Prepare and circulate Notice of Preparation (NOP) (CEQA requirement – Environmental Impact Report EIR only).
- Conduct and document Public and Agency environmental scoping meeting(s)
- Prepare and coordinate with Metropolitan Planning Organization (MPO)/Regional Transportation Planning Agency (RTPA), and Tribal Transportation Planning Agency a Public Participation Plan, meeting MPO, State Implementation Plan (SIP), FHWA Metropolitan Planning and tribal requirements.
- Conduct and document public and agency open house and workshop meetings during development of the environmental document.
- Conduct and document other formal and informal public participation activities such as citizen's committees, focus groups, presentations to political bodies, and media appearances, not directly related to preparation and coordination of a technical work product.
- Prepare & circulate newsletters and other public informational and press materials
- Prepare and maintain Project Mailing List

End Product(s)

This WBS task has multiple deliverables, with no single item indicating completion of the work package. Work on this WBS element may occur throughout the performance period of 165-level work.

- Draft Notice of Intent for FHWA publication
- Published Notice of Preparation with mailing list and State Clearinghouse documentation.
- Public Participation Plan
- MPO/Air Pollution Control District (APCD) comments on and concurrence with Public Participation Plan.
- Minutes, Records of Meeting, Newsletters, press materials, and Public Participation Reports for meetings and other public participation activities.
- Project Mailing List

165.05.15 Alternatives for Further Study

The Project Development Team selects alternative(s) for further study in the Draft Environmental Document and Draft Project Report. The selection process and criteria are documented for use in later stages of the project. Alternatives are based on those

developed and documented in the Project Initiation Document, with additions or deletions as required.

Guidance

- [Standard Environmental Reference \(SER\) - Environmental Handbook Col. 1, Chap. 37](#)
- [Project Development Procedures Manual \(PDPM\), Chapter 10, Sections 3 & 4](#)

Sub-Tasks

- Perform preliminary alternatives analysis
- Consider public comment and participation (via the scoping process in task 165.05.10)
- Review alternatives analysis with Project Development Team
- Prepare and review alternative selection documentation
- Preliminary alternatives analysis report (used by PDT and public)
- Public and PDT Review documentation and comments
- Response to comments

End Product(s)

- Alternative(s) selection memo
- NOP/NOI Alternatives discussion (EIR/EIS projects only)

165.05.99 Other Environmental Scoping of Alternatives Identified for Studies in PID

All other work, during the Environmental Scoping of Alternatives Identified for Studies in PID efforts, not defined or covered in other 165.05 elements.

165.10 General Environmental Studies

Perform environmental technical studies, other than for Biology and Cultural Resources, and prepare technical reports and other work products documenting study results.

End Product(s)

- All technical study reports necessary for the preparation of a project's Environmental Document, other than those related to Biology (See WBS 165.15) and Cultural Resources (see WBS 165.20).

165.10.15 Community Impact Analysis Land Use and Growth Studies

Perform all activities related to socioeconomic, land use, and growth impact technical studies for use in the environmental document, and prepare a technical report documenting study results.

Note: Tasks that are in common with draft relocation impact study are done under this WBS.

Guidance

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 24](#)
- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 25](#)
- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 4](#)
- Traffic Volume Data
- [Project Development Procedures Manual \(PDPM\), Chapter 8, Sections 6 & 7; Chapter 10, Sections 3 & 4](#)

Sub-Tasks

- Perform ethnicity and economic studies to determine the characteristics of the communities affected by the project. This includes Environmental Justice requirements.
- Perform land use studies to determine the relationship of the project to local, regional, and other planning, and identify compatibility issues with existing land uses.
- Perform growth impact studies.
- Prepare interim reports for internal and peer review.
- Prepare technical report with mapping & other graphics.
- Prepare abstract for inclusion in Environmental Document text.
- Prepare transmittal memo outlining study results, potential significance of impacts and significance criteria, and proposed mitigation measures.
- Coordinate with local and regional agencies, ethnic and community groups, and business organizations.
- Farmland Evaluation and Coordination

End Product(s)

- Technical Report(s)
- Technical report Abstract for use in Environmental Document text
- Transmittal memo with proposed mitigation measures and mitigation effectiveness evaluation

165.10.20 Visual Impact Assessment and Scenic Resource Evaluation

Perform all activities related to Visual Impact Assessment (VIA) and Scenic Resource Evaluation (SRE) for use in the environmental document, and prepare a technical report documenting study results.

Guidance

- Environmental Handbook Vol. 1, Chapter 27

Sub-Tasks

- Perform a visual inventory of the project area.
- Prepare visual simulations of the proposed alternatives.
- Coordinate with local agencies, citizens groups, and business groups related to community design and scenic issues.
- Prepare technical report.
- Prepare abstract for inclusion in Environmental Document.
- Prepare transmittal memo outlining study results, potential significance of impacts and significance criteria, and proposed mitigation measures.
- Perform Scenic Resource Evaluation

End Product(s)

- Visual Simulations and Exhibits
- Technical Report
- Technical report Abstract for use in Environmental Document
- Transmittal memo with proposed mitigation measures and mitigation effectiveness evaluation

165.10.25 Noise Study

Perform all activities related to noise impact analysis for use in the Environmental Document, and prepare a technical report documenting study results.

Guidance

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 12](#)
- Highway Design Manual (HDM), Chapter 1100
- Technical Noise Supplement
- Traffic Noise Analysis Protocol
- [Project Development Procedures Manual \(PDPM\), Chapter 30, All Sections](#)

Sub-Tasks

- Identify sensitive receptors and analysis locations.
- Collect existing noise information, including monitoring data from Air Resources Board (ARB) and Air Pollution Control District (APCD) sites.
- Perform noise modeling.
- Develop estimates of effectiveness for alternative mitigation measures.
- Prepare technical report with preliminary barrier plans.
- Prepare abstract for inclusion in Environmental Document text.
- Prepare transmittal memo outlining study results, potential significance of impacts and significance criteria, and proposed mitigation measures.

End Product(s)

- Preliminary Noise Barrier Plans
- Technical Report
- Technical report Abstract for use in Environmental Document text
- Transmittal memo

165.10.30 Air Quality Study

Perform all activities related to air quality impact analysis for use in the environmental document, and prepare a technical report documenting study results.

Guidance

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 11](#)
- [Project Development Procedures Manual \(PDPM\), Chapter 10, Sections 3 & 4](#)

Sub-Tasks

- Identify sensitive receptors and analysis locations.
- Collect existing CO data
- Perform CO and/or other monitoring. NOTE: Scheduling of this activity should take into account appropriate study windows.
- Perform micro-scale modeling to predict future pollutant concentrations with no project and all applicable alternatives.
- Verify Federal Clean Air Act conformity status of the project; coordinate with regional and air quality agencies to obtain concurrence in the conformity status of the project, and carry out additional conformity-related activities, if necessary, including regional modeling of additional alternatives and recommendations for RTP and/or RTIP revisions.

- Develop estimates of effectiveness for alternative mitigation measures.
- Prepare technical report.
- Prepare abstract for inclusion in Environmental Document text.
- Prepare transmittal memo outlining study results, potential significance of impacts and significance criteria, and proposed mitigation measures.

End Product(s)

- Monitoring Report
- Technical Report
- Technical report Abstract for use in Environmental Document text
- Transmittal memo
- Evidence of coordination with and concurrence by MPO and air quality agencies

165.10.35 Water Quality Studies

Perform all activities related to water quality impact analysis for use in the environmental document, and prepare a technical report documenting study results.

Guidance

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 9](#)
- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 15](#)
- Storm Water Pollution Protection Plan Guidelines for Environmental Planning
- [Project Development Procedures Manual \(PDPM\), Chapter 10, Sections 3 & 4](#)

Sub-Tasks

- Identify receiving waters, their regulatory status, and their uses.
- Collect existing water quality information, including monitoring data from other agencies as available.
- If necessary due to inadequate existing information, conduct on-site sampling and/or monitoring.
- Perform modeling if necessary and appropriate to predict future pollutant concentrations with no project and all applicable alternatives.
- Verify applicability of Sole Source Aquifer, NPDES, and other laws and regulations to the project and design of drainage facilities.
- Develop estimates of effectiveness for alternative drainage facilities and mitigation measures.
- Prepare technical report with mapping & other graphics.
- Prepare abstract for inclusion in Environmental Document text.
- Prepare transmittal memo outlining study results, potential significance of impacts and significance criteria, and proposed mitigation measures.

End Product(s)

- Monitoring Report(s)
- Permit application materials if required
- Technical Report
- Technical report Abstract for use in Environmental Document text
- Transmittal memo
- Evidence of coordination with and concurrence by MPO and water quality agencies

165.10.40 Energy Studies

Perform all activities related to energy impact analysis for use in the environmental document, and prepare a technical report documenting study results.

Guidance

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 13](#)

Sub-Tasks

- Perform modeling or use other analysis methods to predict future energy use with no project and all applicable alternatives.
- Verify applicability of energy-related laws and regulations to the project and design of drainage facilities.
- Prepare technical report.
- Prepare abstract for inclusion in Environmental Document text.
- Prepare transmittal memo outlining study results, potential significance of impacts and significance criteria, and proposed mitigation measures.

End Product(s)

- Technical Report
- Technical report Abstract for use in Environmental Document text
- Transmittal memo

165.10.45 Summary of Geotechnical Report

Prepare summary of Preliminary Geotechnical Report for inclusion in the Draft Environmental Document.

Guidance

- [Project Development Procedures Manual \(PDPM\), Chapter 10, Sections 3 & 4](#)

Sub-Tasks

- Review Preliminary Geotechnical Report
- Prepare abstract for inclusion in Environmental Document text.

End Product(s)

- Technical report Abstract for use in Environmental Document text

165.10.55 Draft Right of Way Relocation Impact Document

Perform all activities related to relocation impact analysis for use in the Environmental Document, and prepare a technical report documenting study results.

Note: Tasks that are common with Draft Relocation Impact study and 165.10.15 (Perform Socioeconomic, Land Use, and Growth Studies) are done under 165.10.15.

Guidance

- Right of Way Manual - Forms and Exhibits, Chapter 10
- Right of Way Manual - Reference Version, Chapter 10
- [Project Development Procedures Manual \(PDPM\), Chapter 10, Sections 3 & 4](#)
- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 4, Chap. 4, Sec. 7](#)

Sub-Tasks

- Prepare technical report.
- Prepare abstract for inclusion in Environmental Document text.
- Prepare transmittal memo outlining study results, potential significance of impacts and significance criteria, and proposed mitigation measures.

End Product(s)

- Technical Report and associated materials
- Technical Report
- Technical report Abstract for use in Environmental Document text
- Transmittal memo

165.10.60 Location Hydraulic & Floodplain Study Reports

Perform all activities related to preparing a Location Hydraulic Study, including structures hydraulics, for use in the environmental document and Draft Project Report, and a flood plain study for use in the Environmental Document, and prepare a technical report or reports documenting study results.

Note: These studies are usually combined into one document since they address largely the same issues. The Location Hydraulic Study is a specific FHWA requirement where a project will encroach on a flood plain. The Flood plain Study may consider a broader range of issues than FHWA requires for the Location Hydraulic Study, and is usually part of the information required to deal with the Corps of Engineers in the 404 permit process.

Guidance

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 17](#)
- Highway Design Manual (HDM), Chapter 800, Topic 804
- [Project Development Procedures Manual \(PDPM\), Chapter 10, Sections 2, 3 & 4](#)

Sub-Tasks

- Prepare technical report.
- Prepare abstract for inclusion in Environmental Document text.
- Prepare transmittal memo outlining study results, potential significance of impacts and significance criteria, and proposed mitigation measures.

End Product(s)

- Technical Report
- Technical report Abstract for use in Environmental Document text
- Transmittal memo

165.10.65 Paleontology Study

Tasks involved with the identification and evaluation of paleontological resources within the project's study area

Guidance

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 8](#)

Sub-Tasks

- Identification of geologic strata potentially affected by project related activities (including borrow sites, cuts and haul roads) and assessment of its potential to contain significant paleontological resources.
- Literature search of paleontological resources in the region.
- Consultation with paleontologists with expertise in the region
- Develop preliminary mitigation plan, if necessary

End Product(s)

- Summary report of conclusions for inclusion in the Environmental Document.
- Paleontological Identification Report (PIR), if not prepared for PID
- Paleontological Evaluation Report (PER)
- Paleontological Monitoring Plan (PMP)

165.10.70 Wild and Scenic Rivers Coordination

Tasks involved with the identification and evaluation of wild and scenic rivers within the project's study area.

Guidance

- [Standard Environmental Reference \(SER\)](#) – Environmental Handbook Vol. 1, Chapter 19

Sub-Tasks

- Identification of all river reaches officially designated as being part of the National Wild and Scenic River System and official “study” river.
- Identification of all river reaches officially designated as “wild”, “scenic”, or “recreational” by the California Resources Agency.

End Product(s)

- Summary report of conclusions for inclusion in the Environmental Document

165.10.75 Environmental Commitments Record

Prepare and/or update the Environmental Commitments Record (ECR) and its associated documentation (e.g., Mitigation Monitoring and Reporting Record (MMRR) or Permits, Agreements and Mitigation (PAM)). In the case of a CE, transmit to Design for inclusion into the PS&E package. The ECR (which should be initiated/updated at WBS 150.40.50, 165.10.75, 170.10.60, 180.15.20, 205.10.60, 235.40, 255.15, 255.40, 260.75, 270.70, 295.35, and 295.40) is used as a part of the Environmental input for the RE Pending File (255.40), Environmental Certification at RTL (260.15.15), and the Certificate of Environmental Compliance (295.35).

Guidance

- [Standard Environmental Reference \(SER\)](#) – [Environmental Handbook Vol. 1, Chapter 39](#)

165.10.80 Hazardous Waste Initial Site Assessments/Investigations

End Product(s)

- Hazardous waste Initial Site Assessment (ISA). An ISA is required for all projects. This information should have been acquired during the K Phase in order to properly complete the PEAR and PID. If an ISA was not completed during the K Phase, its costs should be captured here.

Note: This work may be done through the consultant contract process. Consultant selection and administration activities should be captured under WBS 100.10.

Guidance

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 10](#)
- [Preliminary Environmental Analysis Report Handbook](#)
- Project Development Procedures Manual (PDPM), Chapter 3, Section 2; Chapter 10, Section 3 & 4, Chapter 18

165.10.85 Hazardous Waste Preliminary Site Investigations

- Perform all activities related to one or more Preliminary Site Investigations (PSIs) and prepare a technical report documenting study results.

Note: Typically this work may be done through the consultant contract process. Consultant selection and administration activities should be captured under WBS 100.10.

Guidance

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 10](#)
- Project Development Procedures Manual (PDPM), Chapter 10, Sections 3 & 4; Chapter 18, All Sections

Sub-Tasks

- Review and, if necessary, update Initial Site Assessment.
- Transfer funding from project to hazardous waste contract to cover task order cost.
- Prepare technical report.
- Prepare abstract for inclusion in Environmental Document text.
- Prepare transmittal memo outlining study results, potential significance of impacts and significance criteria, and proposed mitigation measures.

End Product(s)

- Technical Report
- Technical report Abstract for use in Environmental Document text
- Transmittal memo

165.10.99 Other Environmental Studies

All other work, during the General Environmental Studies efforts, not defined or covered in other 165.10 elements.

165.15 Biological Studies

Perform all activities related to preparing Biological Studies related to the project.

End Product(s)

- The biological study reports necessary for the preparation of the project's Environmental Document.

165.15.05 Biological Assessment

Perform all tasks related to endangered species and other studies required to complete a Biological Assessment report.

Guidance

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 14](#)
- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 3, Chap. 4](#)
- [Project Development Procedures Manual \(PDPM\), Chapter 10, Sections 3 & 4](#)

Sub-Tasks

- Obtain endangered species list for project area.
- Perform presence/absence and other field studies.
- Determine effect on species.
- Perform formal and informal coordination with resource agencies.
- Prepare technical report.

End Product(s)

- Biological Assessment Report
- Documentation of coordination
- Abstract (s) for inclusion in the Natural Environmental Study and Environmental Document
- Memo discussing recommended and/or required mitigation measures

165.15.10 Wetlands Study

Perform all tasks related to identifying, studying project effects on, and determining mitigation for wetlands in the project area, and prepare a report.

Guidance

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 15](#)
- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 37](#) [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 3, Chap. 3](#)
- [Project Development Procedures Manual \(PDPM\), Chapter 10, Sections 3 & 4](#)

Sub-Tasks

- Coordinate endangered species information with Biological Assessment (165.15.05) work.
- Delineate wetlands in the project area to Corps of Engineers standards, and obtain Corps approval of delineation.
- Determine effect on species and amount/type of wetlands affected.

End Product(s)

- Prepare technical report.
- Technical report
- Wetland Delineation materials
- Prepare abstract(s) for inclusion in Natural Environment Study and Environmental Document text.
- Memo discussing recommended and/or required mitigation measures

165.15.15 Resource Agency Permit Related Coordination

Effort involved directly with formal consultation and coordination required in order to complete the biological studies. This work may result from studies done under any of the other biological task areas and may be required in order to complete those studies. The purpose of separating this effort is to identify the workload involved with permit and mandatory consultation work in the biology field.

The intent of this activity is to gain consensus with the resource agencies on the impacts and mitigation's on the proposed alternatives necessary for completion of the Draft Environmental Document (DED). Subsequent effort in resolving comments from the DED is covered in WBS 175. Efforts required obtaining permits, renewing permits, or obtaining permit extensions after PA&ED are included in WBS 165.10, 235.05.15, 255.15, and 270.75. This includes coordination with the Army Corps of Engineers under the NEPA/404 Coordination MOU process.

Guidance

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 3](#)
- [Project Development Procedures Manual \(PDPM\), Chapter 10, Sections 3 & 4; Chapter 13, All Sections](#)

Sub-Tasks

- Obtain concurrence by the Corps of Engineers with initial purpose and need and range of alternatives, per NEPA/404 MOU requirements.
- Coordinate work with Biological Assessment (165.15.05), Wetlands Study (165.15.10), and Natural Environment Study (165.15.20) work.
- Perform Section 7 and/or Section 10 consultation with the U.S. Fish & Wildlife Service.
- Perform formal consultation and obtain concurrence in biological and wetland studies under the NEPA/404 Coordination MOU process.
- Perform early consultation with Calif. Dept. of Fish and Game regarding biology issues related to possible Section 1600 permits.
- Perform formal and informal biology-related coordination with other resource agencies as needed.
- Prepare and submit preliminary Section 404 permit application to the Army Corps of Engineers per NEPA/404 Memorandum of Understanding (MOU).

End Product(s)

- Produce documentation of various types of consultation, coordination, and permits for inclusion in other biological study reports and the Environmental Document.

165.15.20 Natural Environment Study (NES) Report

Based on information developed in the Biological Assessment and Wetlands Study reports, and other information as directed by technical guidance, prepare a Natural Environment Study (NES) Report. This report is the master document covering compliance with biological study and consultation requirements, and providing language and mitigation measures for use in the Environmental Document.

Guidance

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 14](#)
- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 3, Chap. 2](#)

- [Project Development Procedures Manual \(PDPM\), Chapter 10, Sections 3 & 4](#)

Sub-Tasks

- Review other biological study work.
- Prepare technical report.
- Prepare abstract for inclusion in Environmental Document text.
- Prepare transmittal memo outlining study results, potential significance of impacts and significance criteria, and proposed mitigation measures.

End Product(s)

- Technical Report
- Abstract for use in Environmental Document
- Memorandum summarizing Technical Report, discussing impacts and their potential significance, and recommending or requiring mitigation measures

165.15.99 Other Biological Studies

All other work, during the Biological Studies efforts, not defined or covered in other 165.15 elements.

165.20 Cultural Resource Studies

Perform studies and prepare cultural resources (archaeological, historical, and architectural) reports in order to comply with the requirements of CEQA, NEPA, Section 106 of the National Historic Preservation Act, and Section 5024 of the California Public Resources Code. Includes consultation with Native American communities.

End Product(s)

- Produce documentation (e.g., from FHWA or State Historic Preservation Officer (SHPO)) that compliance with applicable Federal and/or state cultural resource laws and regulations has been achieved.

165.20.05 Archaeological Survey

End Product(s)

- Archaeological Survey Report (ASR) that details study methods and results.

165.20.05.05 Area of Potential Effects/Study Area Maps

Efforts required for preparing an Area of Potential Effects (APE) maps for projects with a Federal nexus and Study Area maps for those with State-only involvement.

Guidance

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 2, Chaps. 2 and 4](#)

165.20.05.10 Native American Consultation

Guidance

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 2, Chap. 3](#)

165.20.05.15 Records and Literature Search

Guidance

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 2, Chap. 4](#)

165.20.05.20 Field Survey

Guidance

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 2, Chap. 4](#)

165.20.05.25 Archaeological Survey Report (ASR)

Efforts required for preparing an Archaeological Survey Report (ASR)

Guidance

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 2, Chaps. 4 and 5](#)

165.20.05.99 Other Archaeological Survey Products

All other work, during the Archaeological Survey efforts, not defined or covered in other 165.20.05 elements.

165.20.10 Extended Phase I Archaeological Studies

End Product(s)

- A technical report detailing the methods and results of the Extended Phase I studies.

165.20.10.05 Native American Consultation

Guidance

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 2, Chap. 3](#)

165.20.10.10 Extended Phase 1 Proposal

Guidance

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 2, Chap. 5](#)

165.20.10.15 Extended Phase I Field Investigation

Guidance

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 2, Chaps. 5 and 6](#)

165.20.10.20 Extended Phase I Materials Analysis

Guidance

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 2, Chap. 5](#)

165.20.10.25 Extended Phase I Report

Guidance

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 2, Chap. 5](#)

165.20.10.99 Other Extended Phase I Archaeological Study Products

All other work, during the Extended Phase I Archaeological Studies efforts, not defined or covered in other 165.20.10 elements.

165.20.15 Phase II Archaeological Studies

Phase II studies for projects involving only one alternative or projects where all alternatives have the same impacts on all archaeological resources.

End Product(s)

- A technical report detailing the methods and results of Phase II studies for projects involving only one alternative or projects where all alternatives have the same impacts on all archaeological resources.

Note: For projects involving multiple alternatives, hence Phase II investigations necessarily being conducted after circulation of the Draft Environmental Document and selection of Preferred Alternative use 180.10.05.40 'Section 1 Consultation and MOA'.

165.20.15.05 Native American Consultation**Guidance**

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 2, Chap. 3](#)

165.20.15.10 Phase II Proposal**Guidance**

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 2, Chap. 5](#)

165.20.15.15 Phase II Field Investigation**Guidance**

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 2, Chap. 5](#)

165.20.15.20 Phase II Materials Analysis**Guidance**

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 2, Chap. 5](#)

165.20.15.25 Phase II Report**Guidance**

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 2, Chap. 5](#)

165.20.15.99 Other Extended Phase II Archaeological Study Products

All other work, during the Extended Phase II Archaeological Studies efforts, not defined or covered in other 165.20.15 elements.

165.20.20 Historical and Architectural Resource Studies**End Product(s)**

- Produce technical report(s) detailing the methods and results of the Historic and Architectural Resource studies.

165.20.20.05 Preliminary Area of Potential Effects/Study Area Maps for Architecture

Efforts required for preparing preliminary Area of Potential Effects (APE) maps for projects with a Federal nexus and Study Area maps for State-only projects

Guidance

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 2, Chaps. 2 and 4](#)

165.20.20.10 Historic Resource Evaluation Reports - Archaeology

Efforts required for preparing a Historic Resource Evaluation Reports (HRER) focused on historic archaeological resources.

Guidance

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 2, Chap. 6](#)

165.20.20.15 Historic Resource Evaluation Reports - Architecture

Effort required for preparing a Historic Resources Evaluation Report (HRER) focused on historic architectural resources

Guidance

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 2, Chap. 7](#)

165.20.20.20 Bridge Evaluation

All efforts needed to complete a historical and architectural evaluation report for an existing bridge(s).

Guidance

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 2, Chap. 7](#)

165.20.20.99 Other Historical and Architectural Resource Study Products

All other work, during the Historical and Architectural Resource Studies efforts, not defined or covered in other 165.20.20 elements.

165.20.25 Cultural Resource Compliance Consultation Documents

End Product(s)

- Compliance documents submitted to FHWA and/or the State Historic Preservation Officer (SHPO) for concurrence regarding resource identification, significance, project effects, and mitigation measures.

165.20.25.05 Final Area of Potential Effects/Study Area Maps

Prepare final Area of Potential Effects (APE) maps for projects with a Federal nexus and Study Area maps for projects with State-only involvement.

Guidance

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 2, Chap. 2](#)

165.20.25.10 PRC 5024.5 Consultation

Guidance

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 2, Chaps. 2 and 7](#)

165.20.25.15 Historic Property Survey Reports / Historic Resource Compliance Reports

Efforts required for preparing Historic Property Survey Reports (HPSR), including Determinations of Eligibility (for Federal nexus projects) and Historic Resource Compliance Reports (HRCPs; for State-only projects)

Guidance

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 2, Chap. 2](#)

165.20.25.20 Finding of Effect (FOE)

Efforts required for preparing a Finding of Effect (FOE)

Guidance

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 2, Chap. 2](#)
- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 2, Chap. 5 \(Prehistoric\)](#)
- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 2, Chap. 6 \(Historic\)](#)

165.20.25.25 Archaeological Data Recovery Plan/Treatment Plan

Guidance

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 2, Chap. 5 \(Prehistoric\)](#)
- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 2, Chap. 6 \(Historic\)](#)

165.20.25.30 Memorandum of Agreement (MOA)

Efforts required for preparing Memorandum of Agreement (MOA) regarding cultural resources.

Guidance

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 2, Chap. 2](#)

165.20.25.99 Other Cultural Resource Compliance Consultation Products

All other work, during the Cultural Resource Compliance Consultation Documents efforts, not defined or covered in other 165.20.25 elements.

165.25 Draft Environmental Document

Prepare Draft Environmental Document (DED) with all attachments or Categorical Exemption/Categorical Exclusion documentation. Conduct all necessary in-house and external

reviews (NEPA and CEQA documents) and obtain U.S. DOT (Federal Highways (FHWA), FTA, or other Administration) approval to circulate NEPA Document.

End Product(s)

- Completed CE documentation or approval to circulate DED.

165.25.05 Draft Environmental Document Analysis

Analyze technical studies and prepare DED (CEQA draft ND/IS or EIR; NEPA draft EA or EIS; typically combination CEQA/NEPA document). Activity includes the coordination of the studies required for the ED.

Guidance

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 31 \(EA/FONSI\)](#)
- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 32 \(EIS\)](#)
- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 34 \(CEQA CE\)](#)
- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 35 \(IS/ND\)](#)
- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 36 \(EIR\)](#)
- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 37 \(Joint Document Preparation and Processing\)](#)
- [Project Development Procedures Manual \(PDPM\), Chapters 10, 11, and 12, All Sections](#)

165.25.10 Section 4(f) Evaluation

Guidance

- [Standard Environmental Reference \(SER\) - Environmental Handbook, Vol. 1, Chap. 20](#)
- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 37 \(Joint Document Preparation and Processing\)](#)
- [Project Development Procedures Manual \(PDPM\), Chapters 12 and 13, All Sections](#)

165.25.15 Categorical Exemption / Categorical Exclusion (CE) Determination

Includes review, circulation and approval.

Guidance

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 30 \(NEPA CE\)](#)
- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 34 \(CEQA CE\)](#)

165.25.20 Environmental Quality Control & Other Reviews

Carry out formal and informal review of DED within The Department including all required quality control reviews. Revise DED as required addressing any comments. Perform preliminary US DOT review if applicable.

Guidance

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 37 \(Joint Document Preparation and Processing\)](#)
- [Project Development Procedures Manual \(PDPM\), Chapters 12 and 13, All Sections](#)

End Product(s)

DED Quality Control Review Certification

165.25.25 Approval to Circulate Resolution**Guidance**

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 37 \(Joint Document Preparation and Processing\)](#)
- [Project Development Procedures Manual \(PDPM\), Chapters 12 and 13, All Sections](#)

Includes time and effort required to resolve US DOT comments.

165.25.30 Environmental Coordination

Management of project-specific environmental resources, schedules, and information, and coordination of the studies required for the environmental document. Obtain Approval to Circulate

165.25.99 Other Draft Environmental Document Products

All other work, during the Draft Environmental Document efforts, not defined or covered in other 165.25 elements.

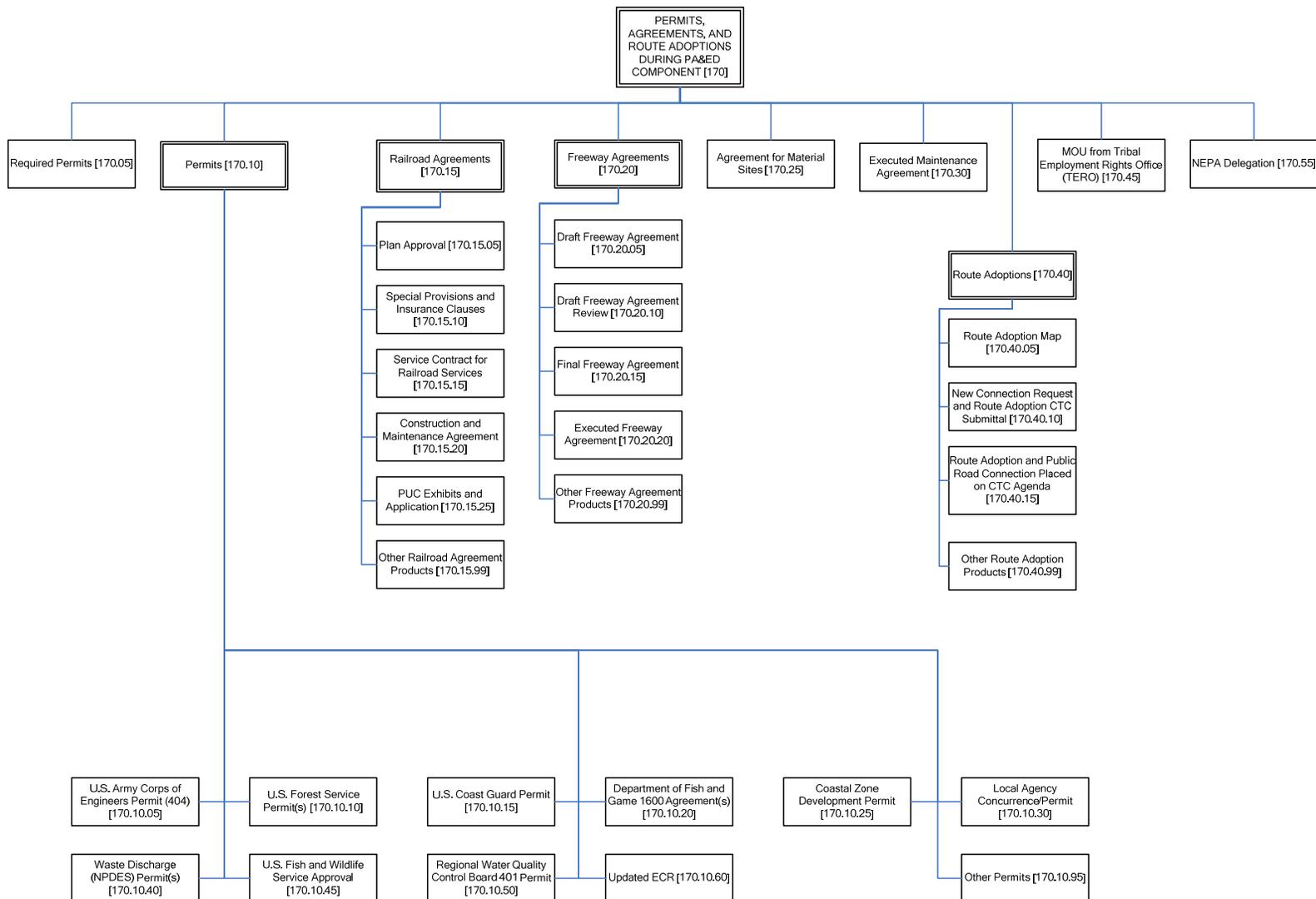
165.30 NEPA Delegation

Includes all WBS 165 (Environmental Studies and Draft Environmental Document) work previously performed by FHWA, but which is now the Department's responsibility as a result of full NEPA delegation from FHWA under SAFETEA-LU.

Guidance

- [Standard Environmental Reference](#)
- [FHWA California Division Home Page](#)

170 Permits, Agreements, and Route Adoptions during PA&ED Component



170 Permits, Agreements, and Route Adoptions during PA&ED Component

Work during PA&ED Component involved in identifying and obtaining necessary permits, agreements, and/or route adoptions needed for project construction.

Note: Agreements or permits specific to other level 5 activities are NOT included as part of this work.

170.05 Required Permits

This activity includes all work, completed during PA&ED in order to: 1) determine what permits may or may not be required; and 2) obtain permits, if appropriate.

Note: This does not include coordination with resource agencies covering the scoping and NEPA/404 MOU process covered under activities 150.10.05, 150.20.20, 165.05.10, and 165.15.15.

Guidance

- [Environmental Handbook Vol. 3, Chapter 3 and 4](#)
- Project Development Procedures Manual (PDPM), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles 1 & 2

End Product(s)

- A list of what specific permits are required and from what agency and/or a memo to file of what permits were considered but not pursued and for what reason.

170.10 Permits

All work involved in obtaining permits, including:

- Discussions and negotiations with the permitting agency.
- Preparation of the permit and attachments such as exhibits, maps, etc.
- Obtain funds for any required permit fee.
- Submit permit application.

End Product(s)

- The permits from each applicable permitting agency have been received.

170.10.05 U.S. Army Corps of Engineers Permit (404)

Guidance

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 3, Chap. 3](#)
- [Project Development Procedures Manual \(PDPM\), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles 1 & 2](#)

170.10.10 U.S. Forest Service Permit(s)

Guidance

- [Project Development Procedures Manual \(PDPM\), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles 1 & 2](#)

170.10.15 U.S. Coast Guard Permit**Guidance**

- [Project Development Procedures Manual \(PDPM\), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles 1 & 2](#)

170.10.20 Department of Fish and Game 1600 Agreement(s)**Guidance**

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 3, Chap. 3](#)
- [Project Development Procedures Manual \(PDPM\), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles 1 & 2](#)

170.10.25 Coastal Zone Development Permit**Guidance**

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 18](#)
- [Project Development Procedures Manual \(PDPM\), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles 1 & 2](#)

170.10.30 Local Agency Concurrence/Permit

Includes coordination necessary to obtain concurrence from the appropriate local agencies when state highway construction impacts existing local facilities.

Guidance

- [Project Development Procedures Manual \(PDPM\), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles 1 & 2](#)

170.10.40 Waste Discharge (NPDES) Permit(s)

Includes all effort needed to obtain a National Pollutant Discharge Elimination System (NPDES) permit.

Guidance

- [Project Development Procedures Manual \(PDPM\), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 8, Section 7; Chapter 13, Articles 1 & 2](#)

170.10.45 U.S. Fish and Wildlife Service Approval**Guidance**

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 18](#)
- [Project Development Procedures Manual \(PDPM\), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles 1 & 2](#)

170.10.50 Regional Water Quality Control Board 401 Permit**Guidance**

- [Project Development Procedures Manual \(PDPM\), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles 1 & 2](#)

170.10.60 Updated ECR

Includes all efforts necessary to update the Environmental Commitments Record (ECR), originally prepared at 180.15.20, and its associated documentation (e.g., Mitigation Monitoring and Reporting Record (MMRR) or Permits, Agreements, and Mitigation (PAM)). The update must be coordinated with Design. The ECR (which should also be updated at WBS 235.40, 270.70, and 295.35) is used as a part of the Environmental input for the RE Pending File (255.40), Environmental Certification at RTL (260.15.15), and the Certificate of Environmental Compliance (295.35).

Guidance

- [Standard Environmental Reference \(SER\)](#)

170.10.95 Other Permits

Includes all permits not listed above, such as Bay Conservation and Development Commission (BCDC) permit, Tahoe Regional Planning Agency (TRPA) permit, and flood control district permits.

Guidance

- [Project Development Procedures Manual \(PDPM\), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles 1 & 2](#)

170.15 Railroad Agreements

All work involved in preparing a Railroad Service Contract, a Railroad Construction and Maintenance Agreement, and Public Utilities Commission (PUC) application.

End Product(s)

- Transmittal of a Clearance Memo from the Structures Agreements Section to Office Engineer, project cannot be advertised prior to this clearance.

170.15.05 Plan Approval**Guidance**

- [Project Development Procedures Manual \(PDPM\), Chapter 3, Sections 3 & 8](#)

170.15.10 Special Provisions and Insurance Clauses**Guidance**

- [Project Development Procedures Manual \(PDPM\), Chapter 3, Sections 3 & 8](#)

170.15.15 Service Contract for Railroad Services**Guidance**

- [Project Development Procedures Manual \(PDPM\), Chapter 3, Sections 3 & 8](#)

170.15.20 Construction and Maintenance Agreement**Guidance**

- [Project Development Procedures Manual \(PDPM\), Chapter 3, Sections 3 & 8](#)
- Right of Way Manual - Reference Version

170.15.25 PUC Exhibits and Application**Guidance**

- Drafting and Plans Manual of Instruction, Article 3-2.7
- [Project Development Procedures Manual \(PDPM\), Chapter 3, Sections 3 & 8](#)

- Right of Way Manual - Reference Version

170.15.99 Other Railroad Agreement Products

All other work, during the Railroad Agreement efforts, not defined or covered in other 170.15 elements.

170.20 Freeway Agreements

Obtain a Freeway Agreement, superseding Freeway Agreement, Controlled Access Highway Agreement, and/or “Performance” (“Project”) Agreement. Includes preparation, and local agency reviews, and revision to the text and map. This task also includes any work done on an agreement for a new public road connection and any work done on a Resolution of Change.

End Product(s)

- Executed copies of the Freeway Agreement and map sent to the local agency and filed in the district files.

170.20.05 Draft Freeway Agreement

Guidance

- Drafting and Plans Manual of Instruction, Article 3-2.5
- [Project Development Procedures Manual \(PDPM\), Chapter 13, Article 6; Chapter 24, All](#)

170.20.10 Draft Freeway Agreement Review

Guidance

- [Project Development Procedures Manual \(PDPM\), Chapter 13, Article 6; Chapter 24, All](#)

170.20.15 Final Freeway Agreement

Guidance

- [Project Development Procedures Manual \(PDPM\), Chapter 13, Article 6; Chapter 24, All](#)

170.20.20 Executed Freeway Agreement

Guidance

- [Project Development Procedures Manual \(PDPM\), Chapter 13, Article 6; Chapter 24, All](#)

170.20.99 Other Freeway Agreement Products

All other work, during the Freeway Agreement efforts, not defined or covered in other 170.20 elements.

170.25 Agreement for Material Sites

Prepare and execute agreements for non-commercial borrow and disposal material sites. This includes identifying, obtaining necessary environmental clearance (if any), and preparing a reclamation plan.

Guidance

- Highway Design Manual (HDM), Chapter 100, Topic 111
- [Project Development Procedures Manual \(PDPM\), Chapter 13, Article 3; Chapter 16, All](#)
- Right of Way Manual - Reference Version

Sub-Tasks

- Negotiate material or disposal royalties
- Prepare and review Materials Agreement
- Execute Materials Agreement
- Environmental clearance
- Prepare reclamation plan.

End Product(s)

- Copies of the Materials Agreement have been distributed to the appropriate units.

170.30 Executed Maintenance Agreement

Prepare and execute Maintenance Agreement with local agency.

Guidance

- [Project Development Procedures Manual \(PDPM\), Chapter 13, Article 4; Chapter 16, All](#)

Sub-Tasks

- Identify facilities within the State's access control limits that will be maintained by the local agency
- Negotiate agreement with local agencies.
- Draft and execute agreement

End Product(s)

- Executed Maintenance Agreements

170.40 Route Adoptions

All work involved in preparing the route adoption map, exhibits, the CTC resolution, and route adoption reports for CTC action. Includes:

- New Public Road Connections
- New route adoptions
- Adopted freeway route denominated to a "controlled access highway"
- Traversable Highway Adoption
- Adoption of a temporary connection
- Route Re-designations
- Modifications to an existing adopted route
- Route Rescissions
- Deletion from the Freeway and Expressway System

End Product(s)

- Obtain CTC approval

170.40.05 Route Adoption Map**Guidance**

- Drafting and Plans Manual of Instruction, Article 3-2.2
- [Project Development Procedures Manual \(PDPM\), Chapter 13, Article 5; Chapter 23, All](#)

170.40.10 New Connection Request and Route Adoption CTC Submittal**Guidance**

- Drafting and Plans Manual of Instruction, Articles 3-2.2 & 3-2.6
- [Project Development Procedures Manual \(PDPM\), Chapter 13, Article 5; Chapter 23, All](#)

170.40.15 Route Adoption and Public Road Connection Placed on CTC Agenda**Guidance**

- [Project Development Procedures Manual \(PDPM\), Chapter 13, Article 5; Chapters 23 and 27, All](#)

170.40.99 Other Route Adoption Products

All other work, during the Route Adoption efforts, not defined or covered in other 170.40 elements.

170.45 MOU from Tribal Employment Rights Office (TERO)

Obtain Memorandum of Understanding from either the tribal government or the Tribal Employment Rights Office (TERO) for Native American preference in hiring and for TERO Tax if on a reservation.

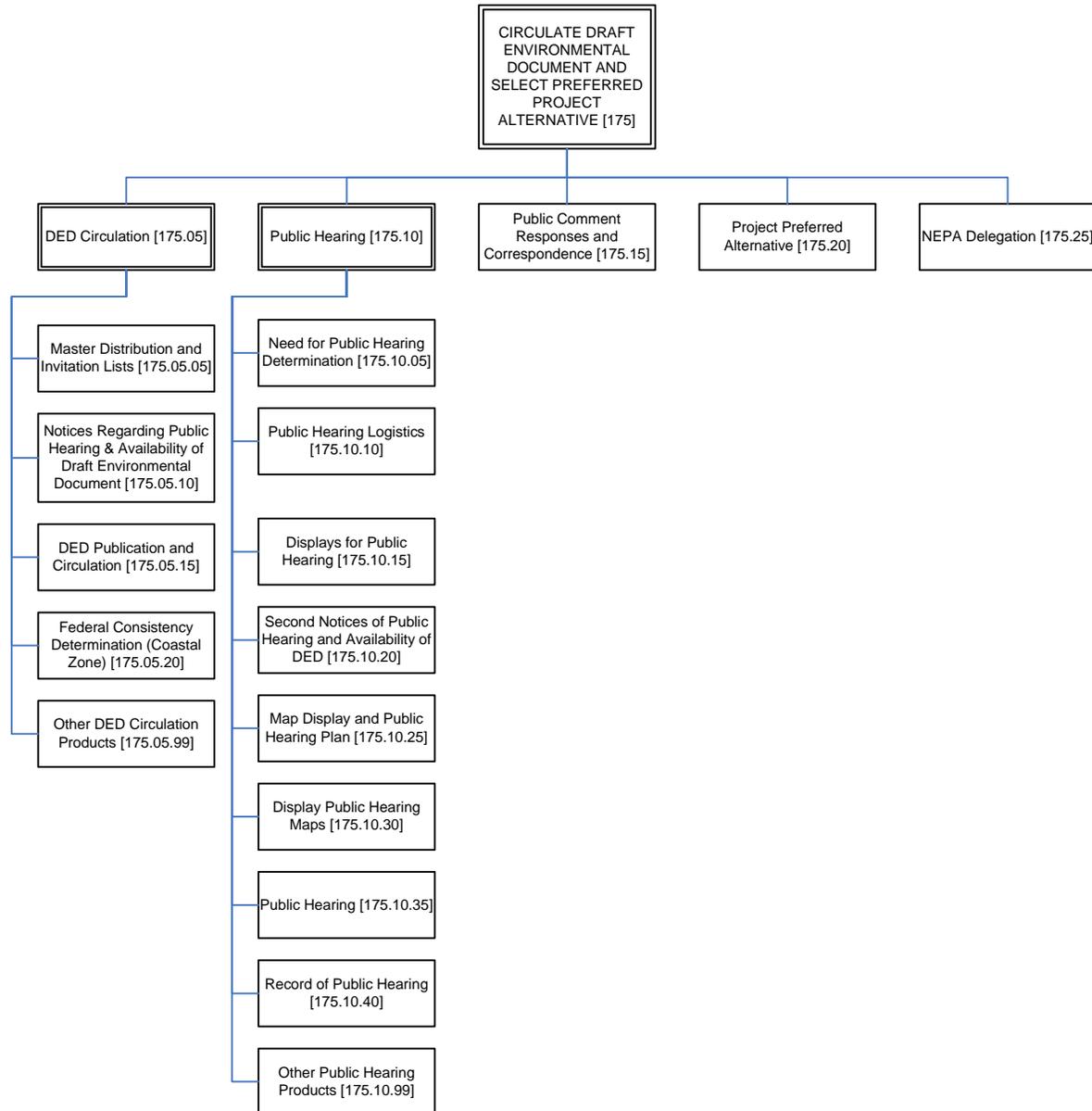
170.55 NEPA Delegation

Includes all WBS 170 (Permits, Agreements, and Route Adoptions) work previously performed by FHWA, but which is now the Department's responsibility as a result of full NEPA delegation from FHWA under Safe, Accountable, Flexible, Efficient Transportation Equity Act: A legacy for Users (SAFETEA-LU).

Guidance

- [Standard Environmental Reference](#)
- [FHWA California Division Home Page](#)

175 Circulate Draft Environmental Document and Select Preferred Project Alternative



175 Circulate Draft Environmental Document and Select Preferred Project Alternative

Work involved in the circulation of the Draft Environmental Document (DED), obtaining and responding to public comment, and selecting a preferred alternative.

175.05 DED Circulation

Preparation and circulation of the DED. This effort does not include the public hearing process and responding to comments.

End Product(s)

- End of Circulation period. This effort does not include the public hearing process and responding to comments.

175.05.05 Master Distribution and Invitation Lists

Update the project's existing mailing list and prepare the distribution list for all interested individuals, groups, and governmental agencies.

Guidance

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap 37](#)
- [Project Development Procedures Manual \(PDPM\), Chapter 11, All Sections](#)

175.05.10 Notices Regarding Public Hearing & Availability of Draft Environmental Document

This includes all efforts required to prepare and issue a Notice of Availability for the DED, mail notifications of the public hearing, either the published "Notice of Opportunity" or the first published public hearing notice.

Guidance

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 37 \(Joint Document Preparation and Processing\)](#)
- [Project Development Procedures Manual \(PDPM\), Chapter 11, All Sections](#)

175.05.15 DED Publication and Circulation

Includes formal public circulation period, publishing/reproduction (including both paper and electronic formats) and mailing of the DED. This activity does not include the public hearing process and responding to comments. Includes transmittal of DED to CTC and preparation of CTC agenda item.

Guidance

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 37 \(Joint Document Preparation and Processing\)](#)

175.05.20 Federal Consistency Determination (Coastal Zone)**Guidance**

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 18](#)
- [Project Development Procedures Manual \(PDPM\), Chapter 13, All Sections](#)

175.05.99 Other DED Circulation Products

All other work, during the DED Circulation efforts, not defined or covered in other 175.05 elements.

175.10 Public Hearing

Perform all tasks for the purpose of preparing and holding Public Hearing for a project.

End Product(s)

- Distribution of the record of Public Hearing

175.10.05 Need for Public Hearing Determination

Based upon the response to the "Notice of Opportunity" for a public hearing, meetings are scheduled with the interested parties to determine if a public hearing is required.

Guidance

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 37 \(Joint Document Preparation and Processing\)](#)
- [Project Development Procedures Manual \(PDPM\), Chapter 11, All Sections](#)

175.10.10 Public Hearing Logistics

Arrange for Public Hearing Logistic - Includes all formal arrangements for the public hearing including:

- Select and obtain public hearing officer
- Obtain hearing room
- Obtain security
- Obtain court reporter
- Obtain language interpreters

Guidance

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 37 \(Joint Document Preparation and Processing\)](#)
- [Project Development Procedures Manual \(PDPM\), Chapter 11, All Sections](#)

175.10.15 Displays for Public Hearing

Preparation of any displays, exhibits, equipment, signs, models, or other physical features for use at the public hearing.

Guidance

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 37 \(Joint Document Preparation and Processing\)](#)
- [Project Development Procedures Manual \(PDPM\), Chapter 11, All Sections](#)

175.10.20 Second Notices of Public Hearing and Availability of DED

This includes the second published and all subsequent public hearing notice and general publicity regarding the public hearing. Including

- Display ads
- Flyers or newsletters mailed / distributed to residents and interested parties
- Notices on bulletin boards in public places
- Press release to all media
- Distribution of notices through schools and service clubs
- Copies of the notice sent to OPPD & FHWA
- Availability of DED

Guidance

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 37 \(Joint Document Preparation and Processing\)](#)
- [Project Development Procedures Manual \(PDPM\), Chapter 11, All Sections](#)

175.10.25 Map Display and Public Hearing Plan**Guidance**

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 37 \(Joint Document Preparation and Processing\)](#)
- [Project Development Procedures Manual \(PDPM\), Chapter 11, All Sections](#)

175.10.30 Display Public Hearing Maps

Includes either formal or informal display of the maps to be shown at the public hearing, prior to the public hearing.

Guidance

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 37 \(Joint Document Preparation and Processing\)](#)
- [Project Development Procedures Manual \(PDPM\), Chapter 11, All Sections](#)

175.10.35 Public Hearing

Includes all remaining activities relating to holding the public hearing.

Guidance

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 37 \(Joint Document Preparation and Processing\)](#)
- [Project Development Procedures Manual \(PDPM\), Chapter 11, All Sections](#)

175.10.40 Record of Public Hearing**Guidance**

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 37 \(Joint Document Preparation and Processing\)](#)
- [Project Development Procedures Manual \(PDPM\), Chapter 11, All Sections](#)

175.10.99 Other Public Hearing Products

All other work, during the Public Hearing efforts, not defined or covered in other 175.10 elements.

175.15 Public Comment Responses and Correspondence

Includes the formal response to comments on the DED for the preparation of the Final Environmental Document (FED).

Guidance

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 37 \(Joint Document Preparation and Processing\)](#)
- [Project Development Procedures Manual \(PDPM\), Chapter 11, All Sections](#)

Sub-Tasks

None identified.

End Product(s)

- Printed copies of the responses to comments or the complete text, figures, tables, etc. ready for inclusion into the FED

175.20 Project Preferred Alternative

Identify the project's preferred alternative to be carried forward in the Project Report (PR) and Final Environmental Document (FED).

Guidance

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 37 \(Joint Document Preparation and Processing\)](#)
- [Project Development Procedures Manual \(PDPM\); Chapter 12, Section 2](#)

Sub-Tasks

- Assemble all the data needed to make the selection of the preferred alternative.
- PDT and other meetings to select the preferred alternative.
- Prepare and submit to the NEPA/404 Agencies, a request for concurrence with the Least Environmentally Damaging Practicable Alternative (LEDPA) determination and conceptual mitigation plan.

End Product(s)

- Minutes of the PDT meeting documenting the selection, and agreements with other agencies

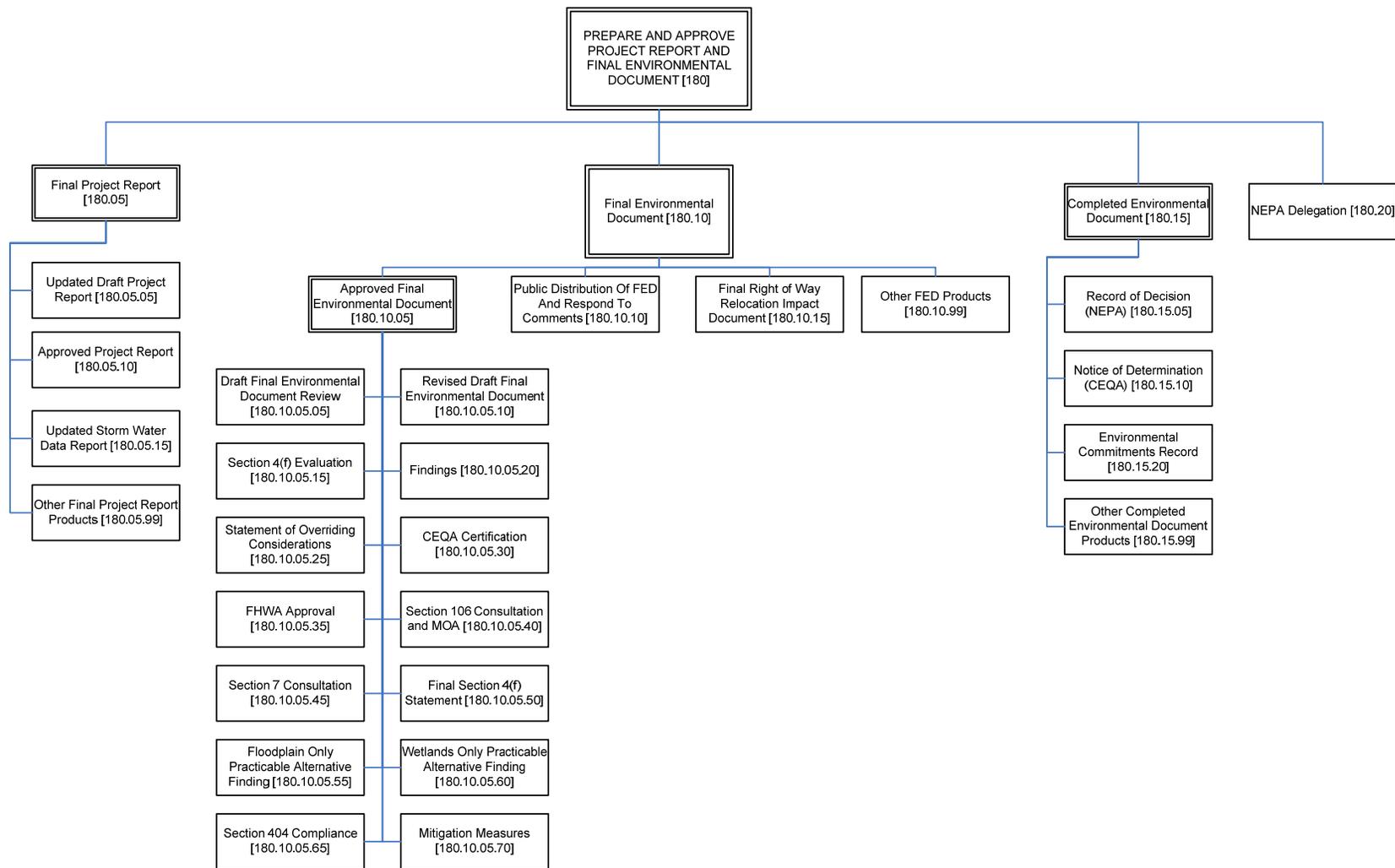
175.25 NEPA Delegation

Includes all WBS 175 (Draft Environmental Document and Preferred Project Alternative Identification) work previously performed by FHWA, but which is now the Department's responsibility as a result of full NEPA delegation from FHWA under SAFETEA-LU.

Guidance

- [Standard Environmental Reference](#)
- [FHWA California Division Home Page](#)

180 Prepare and Approve Project Report and Final Environmental Document



180 Prepare and Approve Project Report and Final Environmental Document

Work involved in the preparation, review, and approval of a Project Report, a Final Environmental Document, and Notices of Determination and/or Records of Decision.

180.05 Final Project Report

Includes all work beyond the approval of the Draft Project Report (160.15) leading to and including approval and distribution of the Project Report.

Note: If only a Categorical Exemption/Exclusion is required, the draft Project Report constitutes the Final Project Report and WBS 180 should not be used.

End Product(s)

- Approved copies are made and distributed.

180.05.05 Updated Draft Project Report

Includes the Preferred Alternative selection and updating the cost estimate.

Guidance

- [Project Development Procedures Manual \(PDPM\), Chapters 12 and 13, All Sections](#)

180.05.10 Approved Project Report

Includes any review and revision as needed due to comments made during circulation.

Guidance

- [Project Development Procedures Manual \(PDPM\), Chapters 12 and 13, All Sections](#)

180.05.15 Updated Storm Water Data Report

Guidance

- Project Planning and Design Guide (PPDG), Section 6; Appendix E

180.05.99 Other Final Project Report Products

All other work, during the Final Project Report efforts, not defined or covered in other 180.05 elements.

180.10 Final Environmental Document

Update the DED to identify the rationale for selection of the Preferred Alternative, Includes work on the Final Environmental Document (FED), Section 4(f) Evaluation, Findings, and Statement of Overriding Considerations. Carry out formal and informal review of FED within The Department including all required quality control reviews.

Guidance

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 37 \(Joint Document Preparation and Processing\)](#)
- [Project Development Procedures Manual \(PDPM\), Chapters 12 and 13, All Sections](#)

End Product(s)

- FED Quality Control Review Certification

180.10.05 Approved Final Environmental Document

Includes efforts required to prepare and obtain approval of the Final Environmental Document (FED).

Guidance

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 31 \(EA/FONSI\)](#)
- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 32 \(EIS\)](#)
- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 35 \(IS/ND\)](#)
- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 36 \(EIR\)](#)
- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 37 \(Joint Document Preparation and Processing\)](#)
- [Project Development Procedures Manual \(PDPM\), Chapters 12 and 13, All Sections](#)

180.10.05.05 Draft Final Environmental Document Review

Includes reproduction of draft FED, performance of internal district and required QA/QC reviews, and documentation of comments received.

Guidance

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 31 \(EA/FONSI\)](#)
- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 32 \(EIS\)](#)
- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 35 \(IS/ND\)](#)
- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 36 \(EIR\)](#)
- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 37 \(Joint Document Preparation and Processing\)](#)

180.10.05.10 Revised Draft Final Environmental Document

Includes modification of Final Environmental Document (FED) in response to all comments received as a result of internal district and required QA/QC reviews.

Guidance

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 37 \(Joint Document Preparation and Processing\)](#)

180.10.05.15 Section 4(f) Evaluation

Guidance

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 20](#)

180.10.05.20 Findings

Guidance

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap 36 \(EIR\)](#)

180.10.05.25 Statement of Overriding Considerations**Guidance**

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap 36 \(EIR\)](#)

180.10.05.30 CEQA Certification**Guidance**

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap 36 \(EIR\)](#)

180.10.05.35 FHWA Approval**Guidance**

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 37 \(Joint Document Preparation and Processing\)](#)

180.10.05.40 Section 106 Consultation and MOA

All technical studies, reports, coordination, and agreements associated with completing Section 106 Consultation for projects involving multiple alignments where the preferred alternative identified until after circulation of the Draft Environmental Document. Efforts may include:

- Performing Phase II Archaeological Studies for the Preferred Alternative (including Native American Consultation, proposal preparation, field investigations, analysis, and report preparation).
- Prepare and Process Supplemental Cultural Resources Compliance Documents for the Preferred Alternative (including preparation of Final Area of Potential Effect map, Supplemental Historic Property Survey Report, Finding of Effect, Archaeological Data Recovery Plan/Treatment Plan, and Memorandum of Agreement (MOA)).
- Processing of supplemental compliance documents through FHWA and/or the State Historic Preservation Officer for concurrence on resource significance, project effects, and mitigation measures.

Note: For project involving only a single alternative or where all alternative have the same impacts on all archaeological resources use 165.20.15

Guidance

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 2, Chaps. 2, 3, and 5](#)

180.10.05.45 Section 7 Consultation**Guidance**

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 3, Chap. 4](#)

180.10.05.50 Final Section 4(f) Statement**Guidance**

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 20](#)
- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 37 \(Joint Document Preparation and Processing\)](#)

180.10.05.55 Floodplain Only Practicable Alternative Finding**Guidance**

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 17](#)

180.10.05.60 Wetlands Only Practicable Alternative Finding**Guidance**

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 37 \(Joint Document Preparation and Processing\)](#)

180.10.05.65 Section 404 Compliance

The end product for this effort may be a permit, acceptance of stipulations, or some other agreement.

Guidance

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 3, Section 3.2](#)

180.10.05.70 Mitigation Measures**Guidance**

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 32 \(EIS\)](#)
- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap 36 \(EIR\)](#)
- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 37 \(Joint Document Preparation and Processing\)](#)

180.10.10 Public Distribution of FED And Respond To Comments

Includes publication/reproduction (including both paper and electronic formats), preparation of a transmittal letter, publication of the Notice of Availability, transmittal of copies of the Federal Register, and distribution of the Final Environmental Document (FED). Includes transmittal of Final Environmental Document (FED) to CTC, preparation of CTC agenda item and respond to comments on the FED.

Guidance

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 37 \(Joint Document Preparation and Processing\)](#)
- [Project Development Procedures Manual \(PDPM\), Chapters 12 and 13, All Sections](#)

180.10.15 Final Right of Way Relocation Impact Document

Complete and update the draft Right of Way Impact Study done during the DED phase.

Guidance

- Right of Way Manual - Forms and Exhibits, Chapter 10
- Right of Way Manual - Reference Version, Chapter 10

180.10.99 Other FED Products

All other work, during the FED efforts, not defined or covered in other 180.10 elements.

180.15 Completed Environmental Document

Work involved in preparing the Notice of Determination (NOD) and Record of Decision (ROD) and obtaining FHWA approval of the ROD.

Note: Environmental compliance is not necessarily “completed” at this stage. Rather, the environmental document and associated decision making process is complete.

End Product(s)

- Executed Notice of Determination
- FHWA approved Record of Decision

180.15.05 Record of Decision (NEPA)

Includes efforts required to draft and obtain Federal approval of the Record of Decision (ROD)

Guidance

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 37 \(Joint Document Preparation and Processing\)](#)
- [Project Development Procedures Manual \(PDPM\), Chapter 12, Section 5; Chapter 13, Article 10; Chapter 28, All Sections](#)

180.15.10 Notice of Determination (CEQA)

Includes preparation of Notice of Determination (NOD,) making and sending copies to HQ, CTC action, and filing with the Office of Planning and Research.

Note: Includes Notice of Determination (NOD) for projects with or without a route adoption or new road connection and projects that are locally funded.

Guidance

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 37 \(Joint Document Preparation and Processing\)](#)
- [Traffic Noise Analysis Protocol](#)
- [Project Development Procedures Manual \(PDPM\), Chapter 12, Section 5; Chapter 13, Article 10; Chapter 28, All Sections](#)

180.15.20 Environmental Commitments Record

Includes preparing or updating of the Environmental Commitments Record (ECR) and its associated documentation (e.g., Mitigation Monitoring and Reporting Record (MMRR) or Permits, Agreements, and Mitigation (PAM)) for transmission to Design for PS&E. The ECR (which should be updated at WBS 235.05, 235.40, 270.70, and 295.35) is used as a part of the Environmental input for the RE Pending File (255.40),

Environmental Certification at RTL (260.15.15), and the Certificate of Environmental Compliance (295.35).

Guidance

- [Standard Environmental Reference \(SER\)](#)

180.15.99 Other Completed Environmental Document Products

All other work, during the Completed Environmental Document efforts, not defined or covered in other 180.15 elements.

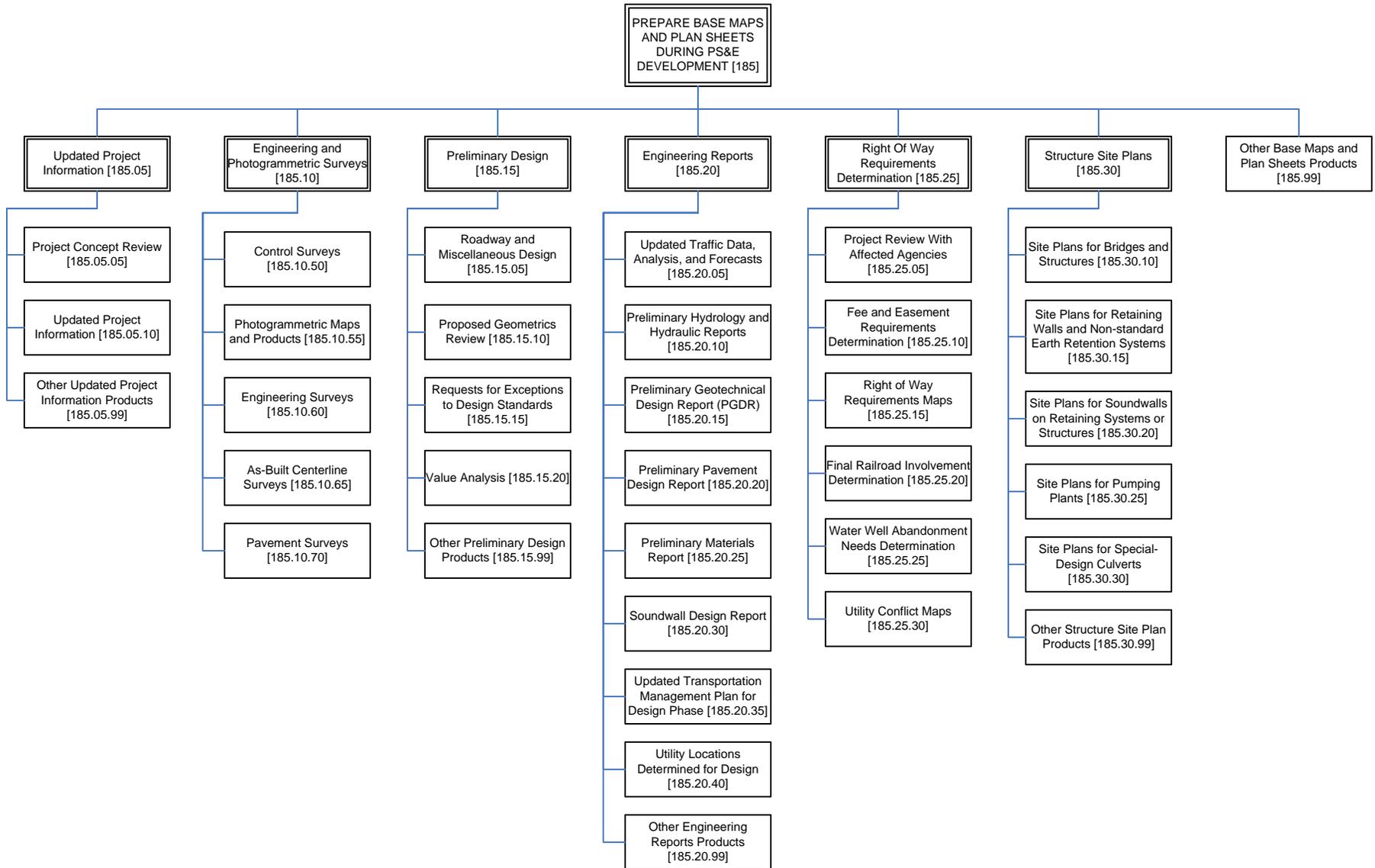
180.20 NEPA Delegation

Includes all WBS 180 (Project Report and Final Environmental Document) work previously performed by FHWA, but which is now the Department's responsibility as a result of full NEPA delegation from FHWA under SAFETEA-LU.

Guidance

- [Standard Environmental Reference](#)
- [FHWA California Division Home Page](#)

185 Prepare Base Maps and Plan Sheets during PS&E Development



185 Prepare Base Maps and Plan Sheets during PS&E Development

Work during PS&E development involved in the preparation of geometric base maps and functional base plan sheets, including review of existing project information, gathering appropriate mapping, conducting additional studies. Final products of this activity include Maps-to-R/W and plan sheets to other functional units.

185.05 Updated Project Information

Initial activities of project design phase necessary to become familiar with the project purpose and scope. Activities necessary to update project information needed to prepare engineering design reports, perform preliminary design, determine Right of Way requirements.

End Product(s)

- Updated Project Information
- Confirmation Of Project Purpose And Scope

185.05.05 Project Concept Review

Guidance

- Project Development Procedures Manual (PDPM), Chapter 14, Section 1, Article 1

Sub-Tasks

- Review of existing project information to determine the project purpose and scope.
- Review Project Reports
- Review Post Miles And Description Of Project
- Review Planning Alignments
- Review Freeway Agreement
- Review Traffic Capacity Requirements
- Review Project Site
- Review/Update Project Cost Estimate
- Confirm Project Purpose And Scope

185.05.10 Updated Project Information

Updating of project information necessary to determine the project scope and cost (Basic Engineering Estimate System (BEES), etc.). This does not include work needed to prepare a Supplemental Project Report. Work needed for a Supplemental Project Report should be included under WBS Activities 160, 165, 175, and 180 and the project rescheduled accordingly.

Guidance

- [Project Development Procedures Manual \(PDPM\), Chapter 14, Section 1, Article 1](#)

185.05.99 Other Updated Project Information Products

All other work, during the Updated Project Information efforts, not defined or covered in other 185.05 elements.

185.10 Engineering and Photogrammetric Surveys

Produce the mapping and survey control necessary for PS&E. This supplements the mapping and control surveys that were produced for the Project Report stage. (See WBS 160.20).

End Product(s)

- Project Mapping for PS&E
- Project Survey Control for PS&E

185.10.50 Control Surveys

Involves all facets of control survey work related to a project; bringing control from Basic (Corridor) Control and adjacent projects, establishing primary control throughout the project, establishing supplemental control for the project, and documentation of the control survey.

Business Practice:

- Horizontal project control should be created as a single adjusted network.
- The department's preferred level of accuracy for horizontal project control is 1st Order.
- Work for this product may be performed under WBS 160.20.50 or WBS 185.10.50. Charge code usage is dependent on project parameters and phase availability. Care should be taken to charge in concurrence with project resource estimate.

Quality

- Control must meet all accuracy standards and methodology requirements as set forth in the Caltrans Surveys Manual, Chapters 5, 8, 9, and Figure 5.1

End Product(s)

- Permanent Project Control Monumentation
 - Project Control Diagram and/or Control Record of Survey
 - Project Control Report
 - Inclusion of control points in electronic control database
- Note:** Does not include control set for aerial mapping products.

185.10.55 Photogrammetric Maps and Products

Includes preparing mapping request, flight line and control distribution planning, pre-marking control survey, aero-triangulation, contract administration, 3-D compilation, map assembly, data conversion, quality control and digital terrain modeling.

Business Practice:

- Work for this product may be performed under WBS 160.20.55 or WBS 185.10.55. Charge code usage is dependent on project parameters and phase availability. Care should be taken to charge in concurrence with project resource estimate.

Quality

- Control must meet all accuracy standards and methodology requirements as set forth in the Caltrans Surveys Manual, Chapters 5, 8, 9, and Figure 5.1
- For Photogrammetric Products refer to Caltrans' Users Guide to Photogrammetric Services

End Product(s)

- Flight Line Layout

- Pre-Marking Control Survey
- Design Project File
- CADD Drawing File

185.10.60 Engineering Surveys

Includes all facets of work; research, planning, field survey, processing and adjusting data, and creating Design Project File, required to perform a topographic survey for delivery to Design.

Business Practice:

- Work for this product may be performed under WBS 160.20.60 or WBS 185.10.60. Charge code usage is dependent on project parameters and phase availability. Care should be taken to charge in concurrence with project resource estimate.

Quality

- All products must meet or exceed criteria as set forth in the Caltrans Surveys Manual, Chapters 5 and 11, and Figure 5-1.

End Product(s)

Design Software Project File, containing any or all of the following:

- Topography
- Structures
- Utility Locations
- Monitoring Surveys
- Vertical Clearance

185.10.65 As-Built Centerline Surveys

All work required locating and documenting existing facility centerline. Includes planning, research, field survey, processing and adjusting data, and preparing the As-built Centerline Alignment map.

Business Practice:

- Work for this product may be performed under WBS 160.20.65 or WBS 185.10.65. Charge code usage is dependent on project parameters and phase availability. Care should be taken to charge in concurrence with project resource estimate.

Quality

- For centerline location, surveys should be performed in a manner to ensure meeting Caltrans General Order standards as listed in the Caltrans Surveys Manual, Chapter 5 and Figure 5-1.

End Product(s)

- A Design Software project file and/or CADD drawing file containing existing centerline alignment. May also contain preliminary right of way line locations based on record data and field surveys.
- Inclusion into District Centerline Alignment Log using appropriate format for district.

185.10.70 Pavement Surveys

Includes all efforts to survey paved portion of project alignment(s).

Business Practice:

- Work for this product may be performed under WBS 160.20.70 or WBS 185.10.70. Charge code usage is dependent on project parameters and phase availability. Care should be taken to charge in concurrence with project resource estimate.
- This work element should be charged when only the horizontal and vertical location of paved features is to be collected. When data collected includes features other than pavement WBS 160.20.65/185.10.65 should be charged.
- Typically this product will be merged with the WBS 160.20.65/185.10.65 product prior to transmittal to Design.

Quality

- Refer to Caltrans Surveys Manual, Chapter 5, Figure 5-1, and Sections 11.7-1 thru 11.7-4.

End Product(s)

- Design Software Project File
- Paved surface of the travel way

185.15 Preliminary Design

This activity includes establishment and any subsequent substantial changes to the project footprint. Design activities with regard to the following preliminary design work:

- Horizontal And Vertical Alignment
- Typical Cross Sections
- Super Elevations
- Earthwork
- Intersection/Interchange Design
- Review Of Geometric Design
- Exceptions To Design Standards
- Includes Delineation Support
- Conceptual stage construction plans.

End Product(s)

- Completion of base maps (which become skeleton plan sheets) for functional units, suitable for developing the functional PS&E.
- Approved geometric design.

185.15.05 Roadway and Miscellaneous Design

Includes: Design of horizontal and vertical alignment, typical cross sections, super elevations, earthwork (cut & fill locations) and conceptual stage construction plans.

Guidance

- Highway Design Manual (HDM), Chapter 80, Topic 82
- [Project Development Procedures Manual \(PDPM\), Chapter 14, Section 1, Article 1](#)

End Product(s)

- Geometric Approval Drawings
- Alignments and Intersection/Interchange Design

185.15.10 Proposed Geometrics Review

Includes: Routine meetings with OPPD, FHWA, and other units in review of proposed geometric design

Guidance

- Design Information Bulletins (DIB), Number 66
- Highway Design Manual (HDM), Chapters 80, Topic 82 & 100, Topic 111
- [Project Development Procedures Manual \(PDPM\), Chapter 14, Section 1, Article 2 & 5](#)

185.15.15 Requests for Exceptions to Design Standards

All work necessary in the preparation of Fact Sheets for exceptions to the mandatory and advisory design standards and processing of approval.

Guidance

- Highway Design Manual (HDM), Chapter 80, Topic 82
- [Project Development Procedures Manual \(PDPM\), Chapter 21, All Sections](#)

185.15.20 Value Analysis**Guidance**

- [Project Development Procedures Manual \(PDPM\), Chapter 19, All Sections](#)

185.15.99 Other Preliminary Design Products

All other work, during the Preliminary Design efforts, not defined or covered in other 185.15 elements.

185.20 Engineering Reports

Activities by various functional units to develop project design reports, including weigh in motion facility requirements, needed to establish design parameters and complete preliminary design (see sub-tasks).

End Product(s)

- Various Engineering Reports

185.20.05 Updated Traffic Data Analysis and Forecasts**Guidance**

- Highway Design Manual (HDM), Chapters: 100, Topics 102 & 103; & 600, Topic 603
- [Project Development Procedures Manual \(PDPM\), Chapter 14, Section 1, Article 1](#)

185.20.10 Preliminary Hydrology and Hydraulic Reports

This task includes all efforts required to prepare preliminary Hydrology and Hydraulic Reports. Final Report to be completed in 230.05.70.05

Guidance

- Highway Design Manual (HDM), Chapter 800
- [Project Development Procedures Manual \(PDPM\), Chapter 14, Section 1, Article 1](#)

185.20.15 Preliminary Geotechnical Design Report (PGDR)

This task includes all efforts required to prepare a Preliminary Geotechnical Design Report (PGDR). A PGDR is to be prepared by Geotechnical Services, Division of Engineering Services for all projects that involve designs for cut slopes, embankments, earthwork, landslide remediation, standard plan retaining walls, standard plan sound walls, overhead signs, changeable message signs, groundwater studies, erosion control features, sub-excavation and any other studies involving geotechnical investigations and

engineering geology. The purpose of the report is to provide geotechnical design input for the early phase of design. The level of effort will depend upon the project needs and may involve some or all of the activities listed under Site Ready for Subsurface Exploration and Geotechnical Design Report. Final Report to be completed in 230.05.70.10

Guidance

- [Project Development Procedures Manual \(PDPM\), Chapter 2, Section 9; Chapter 3, Section 6; Chapter 9, Article 9; Chapter 20, Section 2](#)
- Highway design Manual Chapter 100, Topics 113 and 114; Chapter 200, Topics 203, 208, and 210; Chapter 800, Topics 802 and 805
- Guidelines for Geotechnical Design Reports

185.20.20 Preliminary Pavement Design Report

This task includes all efforts required to prepare a Preliminary Pavement Design Report. Requires all tests, such as deflection study, required to complete preliminary structural section design recommendations. Final Report to be completed in 230.05.70.15.

185.20.25 Preliminary Materials Report

This task includes all efforts required to prepare a Preliminary Materials Report. Preliminary Materials Report may be issued using the best information available and good engineering judgment. Accurate traffic projections and design designations are required for the Preliminary Materials Report. Preliminary Materials Reports must document the sources of information used and assumptions made. Final Report to be completed in 230.05.70.25

Guidance

- Highway Design Manual (HDM), Chapter 100, Topics 112 & 113
- Plans, Specifications, and Estimates Guide, Section 4-3.02B

185.20.30 Soundwall Design Report

Guidance

- Technical Noise Supplement, 6,7
- [Project Development Procedures Manual \(PDPM\), Chapter 30, All Sections](#)

185.20.35 Updated Transportation Management Plan for Design Phase

Guidance

- Deputy Directive 60 regarding TMP Requirements
- TMP Guidelines
- Traffic Manual, Ch.7
- Highway Capacity Manual
- HOV Guidelines
- Ramp Metering Design Guidelines
- Traffic Bulletins
- California Manual on Uniform Traffic Control Devices

185.20.40 Utility Locations Determined for Design

Updated Utility Estimates, Utility Verification Maps, Verified Utility Locations transferred to plan sheet, Request for Pothole (Pos Loc), Pothole plan, Task Orders,

Notice to Owner to Pothole, Report of Investigation to Pothole, Utility Agreement to Pothole, Potholed facility information transferred to plan sheets, and Utility Survey.

For Utility Surveys

Business Practice:

When Potholing activities are required to locate utility facilities the recommended procedure is:

- Caltrans representative, normally from Design or Utilities, is present during the potholing efforts. Representative will set reference points to the uncovered utilities noting the horizontal and vertical offsets between reference point and utility.
- Surveys will respond immediately, upon notification that reference points to utilities are set, tie the locations of reference points, calculate location of utilities, and provide information to requestor.
- This procedure will eliminate the need for survey crews to stand-by while utilities are being uncovered.

Quality

- Surveys must meet all requirements as set forth in the Caltrans Surveys Manual, Section 11.7-5.

End Product(s)

- As defined in Caltrans Surveys Manual, Section 11.7-5. Products should be delivered in a design software project file containing three-dimensional location of tied utility facilities.

185.20.99 Other Engineering Reports Products

All other work, during the Engineering Reports efforts, not defined or covered in other 185.20 elements.

185.25 Right Of Way Requirements Determination

Activities necessary to determine right of way needs and prepare maps for submittal to Right of Way. Includes identifying the need for new right of way, permanent easements, temporary construction easements, and railroad involvement. Includes coordination with affected agencies to determine right of way impacts.

Note: This includes incorporation of utility R/W needs determined in activity 200.15.

End Product(s)

- Maps to Right Of Way

185.25.05 Project Review with Affected Agencies

Includes meetings and coordination work with affected agencies to determine right of way impacts. Does Not include obtaining of required permits or cooperative agreements (see WBS 170, 205, 100.05.35, 100.10.35, 100.15.35, 100.20.35, 100.25.35 and 100.25.50)

Guidance

- Construction Manual, Section 6-16-2
- Plans, Specifications, and Estimates Guide, Section 3-4
- Right of Way Manual - Reference Version

185.25.10 Fee and Easement Requirements Determination**Guidance**

- Construction Manual, Section 6-16-2
- Plans, Specifications, and Estimates Guide, Section 3-4
- [Project Development Procedures Manual \(PDPM\), Chapter 14, Section 1, Article 4](#)
- Right of Way Manual - Reference Version

185.25.15 Right of Way Requirements Maps

These are project base maps prepared by design with right of way needs identified for submittal to Right of Way Engineering. Does not include work by Surveys to prepare right of way appraisal maps (see WBS 220.15.05). This will include incorporation of utility R/W needs determined in activity 200.15.

Guidance

- Standard Plans
- Highway Design Manual (HDM), Chapters 200, Topic 205 & 700, Topic 701
- [Project Development Procedures Manual \(PDPM\), Chapter 14, Sections 1 & 2](#)
- Right of Way Manual - Reference Version

185.25.20 Final Railroad Involvement Determination

Includes preliminary investigations and meetings to determine railroad involvement and right of way impacts. Does not include obtaining of railroad agreements (see WBS 205.15).

Guidance

- [Project Development Procedures Manual \(PDPM\), Chapter 14, Sections 1 & 2](#)
- Right of Way Manual - Reference Version

185.25.25 Water Well Abandonment Needs Determination**Guidance**

- Highway Design Manual (HDM), Chapter 100, Topic 110, Index 110.2(3)
- [Project Development Procedures Manual \(PDPM\), Chapter 14, Sections 1 & 2](#)

185.25.30 Utility Conflict Maps

Includes internal review and redesign to avoid relocation. Includes preparation and transmittal of conflict Maps to the utility companies. Determination of utility R/W needs.

Guidance

- [Project Development Procedures Manual \(PDPM\), Chapter 3, Section 13; Chapter 8, Section 7](#)

185.30 Structure Site Plans

Activities involved in the preparation of various structure site plans, including site geometrics, contours, utility locations and other surface and underground obstacles.

End Product(s)

- Submittal of Structure Site Plans to Structure Design in the Division of Engineering Services

185.30.10 Site Plans for Bridges and Structures

This activity includes completion of the Bridge Site Data Submittal form and attaching all required background information with the form. In addition to the requested information, any special circumstance or important information should be noted and be included.

Guidance

- Drafting and Plans Manual of Instruction, Article 3-3.2
- Highway Design Manual (HDM), Chapter 200, Topic 208 & Chapter 1000
- [Project Development Procedures Manual \(PDPM\), Chapter 14, Section 1, Article 3](#)
- OSFP Information & Procedures Guide, Chapters 2, 5 & 6

Sub-Tasks

- Collect and calculate required information
- Prepare site plan drawings
- Prepare Bridge Site Data Submittal form
- Complete, when necessary, the “special circumstance/important information” section of the bridge site submittal form.

185.30.15 Site Plans for Retaining Walls and Non-standard Earth Retention Systems

This activity includes all the tasks involved in assembling necessary data, such as foundation studies, etc., for retaining walls and nonstandard earth retention systems. This activity also includes completing the Bridge Site Submittal Form for Retaining Walls and Non Standard Earth Retention Systems and preparing necessary site plan sheets. In addition to the requested information, any special circumstance or important information should be noted and included.

Guidance

- Drafting and Plans Manual of Instruction, Article 3-3.2
- Highway Design Manual (HDM), Chapter 200, Topic 210
- OSFP Information & Procedures Guide, Chapters 2, 5 & 6
- [Project Development Procedures Manual \(PDPM\), Chapter 14, Section 1, Article 3](#)

Sub-Tasks

- Collect and calculate required information
- Prepare site plan drawings
- Prepare Bridge Site Submittal Form for Retaining Walls
- Complete, when necessary, the “special circumstance/important information” section of the bridge site submittal form.

185.30.20 Site Plans for Soundwalls on Retaining Systems or Structures

This activity includes filling out the Retaining Wall Site Data Submittal form and attach all required background information with the form. This activity also includes preparing the necessary site plan sheets to be included in the package. In addition to the requested information, any special circumstance or important information should be noted and included.

Guidance

- Drafting and Plans Manual of Instruction, Article 3-3.2
- Highway Design Manual (HDM), Chapter 1100

- [Project Development Procedures Manual \(PDPM\), Chapter 14, Section 1, Article 3](#)
- Traffic Noise Analysis Protocol
- OSFP Information & Procedures Guide, Chapters 2, 5 & 6

Sub-Tasks

- Collect and calculate required information
- Prepare site plan drawings
- Prepare Request form
- Complete, when necessary, the “special circumstance/important information” section of the bridge site submittal form.

185.30.25 Site Plans for Pumping Plants

This activity includes assembling the necessary information as outlined in Section 3-3.2 Bridge Site Maps of The Drafting and Plans Manual. Additional information is needed for pumping plants as follow:

- Proposed location of the pump house and storage box
- Location of the pump outfall line
- Location and elevation of the lowest edge of pavement

In addition to the requested information, any special circumstance or important information should be noted and included.

Guidance

- Drafting and Plans Manual of Instruction, Article 3-3.2
- Highway Design Manual (HDM), Chapter 800, Topics 805 & 839
- [Project Development Procedures Manual \(PDPM\), Chapter 14, Section 1, Article 3](#)
- OSFP Information & Procedures Guide, Chapters 2, 5 & 6
- Pumping Plant Design Manual, Required Design Data

Sub-Tasks

- Collect and calculate required information
- Prepare site plan drawings
- Prepare Request form
- Complete, when necessary, the “special circumstance/important information” section of the bridge site submittal form.

185.30.30 Site Plans for Special-Design Culverts

This activity includes completion of the Bridge Site Data Submittal Form and attaching all required background information with the form. This activity also includes preparing all necessary site plan sheets to be included in the package. In addition to the requested information, any special circumstance or important information should be noted and be included.

Guidance

- Drafting and Plans Manual of Instruction, Article 3-3.2
- [Project Development Procedures Manual \(PDPM\), Chapter 14, Section 1, Article 3](#)
- OSFP Information & Procedures Guide, Chapters 2, 5 & 6

Sub-Tasks

- Collect and calculate required information

- Prepare site plan drawings
- Prepare Bridge Site Data Submittal form
- Complete, when necessary, the “special circumstance/important information” section of the bridge site submittal form.

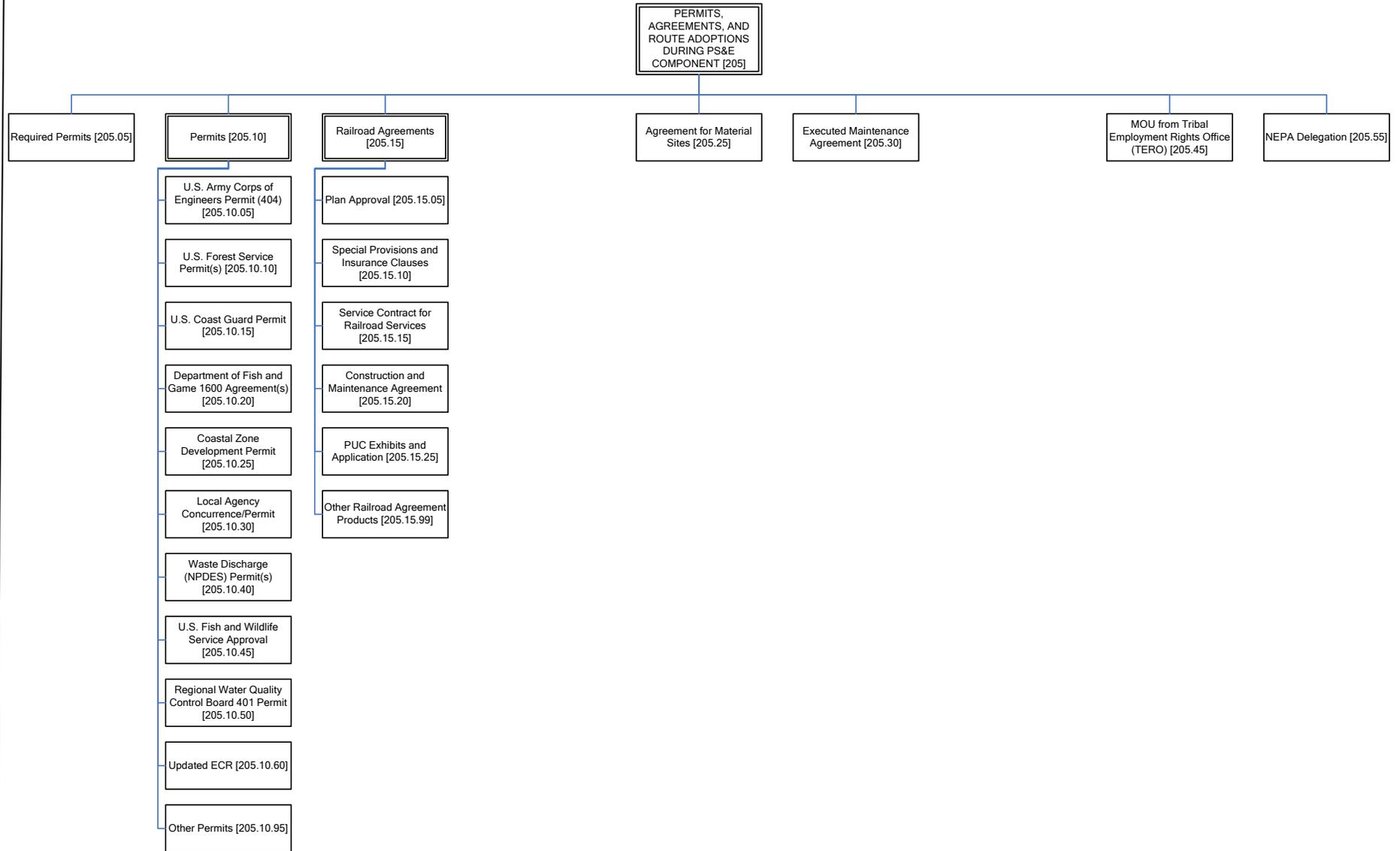
185.30.99 Other Structure Site Plan Products

All other work, during the Structure Site Plan efforts, not defined or covered in other 185.30 elements.

185.99 Other Base Maps and Plan Sheets Products

All other work, during the Base Maps and Plan Sheets efforts, not defined or covered in other 185 elements.

205 Permits and Agreements during PS&E Component



205 Permits and Agreements during PS&E Component

Work during PS&E Component involved in identifying and obtaining necessary permits and agreements for project construction.

Note: Agreements or permits specific to other level 5 activities are NOT included as part of this work.

205.05 Required Permits

This activity includes all work completed during PS&E in order to: 1) determine what permits may or may not be required; and 2) obtain permits if necessary

Note: This does not include coordination with resource agencies covering the scoping and NEPA/404 MOU process covered under activities 150.10.05, 150.20.20, 165.05.10, and 165.15.15.

Guidance

- [Standard Environmental Reference Environmental Handbook Vol. 3, Chapter 3 and 4](#)
- [Project Development Procedures Manual \(PDPM\), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles 1 & 2](#)

End Product(s)

- A listing of the required Permits, Licenses, Agreements, and Certifications (PLACs) required for the project.

205.10 Permits

All work involved in obtaining permits, including:

- Discussions and negotiations with the permitting agency.
- Preparation of the permit and attachments such as exhibits, maps, etc.
- Obtain funds for any required permit fee.
- Submit permit application.

End Product(s)

- The permits from each applicable permitting agency have been received.

205.10.05 U.S. Army Corps of Engineers Permit (404)

Guidance

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 3, Chap. 3](#)
- [Project Development Procedures Manual \(PDPM\), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles 1 & 2](#)

205.10.10 U.S. Forest Service Permit(s)

Guidance

- [Project Development Procedures Manual \(PDPM\), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles 1 & 2](#)

205.10.15 U.S. Coast Guard Permit**Guidance**

- [Project Development Procedures Manual \(PDPM\), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles 1 & 2](#)

205.10.20 Department of Fish and Game 1600 Agreement(s)**Guidance**

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 3, Chap. 3](#)
- [Project Development Procedures Manual \(PDPM\), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles 1 & 2](#)

205.10.25 Coastal Zone Development Permit**Guidance**

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 18](#)
- [Project Development Procedures Manual \(PDPM\), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles 1 & 2](#)

205.10.30 Local Agency Concurrence/Permit

Includes coordination necessary to obtain concurrence from the appropriate local agencies when state highway construction impacts existing local facilities.

Guidance

- [Project Development Procedures Manual \(PDPM\), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles 1 & 2](#)

205.10.40 Waste Discharge National Pollutant Discharge Elimination System (NPDES) Permit(s)

Includes all effort needed to obtain a National Pollutant Discharge Elimination System (NPDES) permit.

Guidance

- [Project Development Procedures Manual \(PDPM\), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 8, Section 7; Chapter 13, Articles 1 & 2](#)

205.10.45 U.S. Fish and Wildlife Service Approval**Guidance**

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 14](#)
- [Project Development Procedures Manual \(PDPM\), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles 1 & 2](#)

205.10.50 Regional Water Quality Control Board 401 Permit**Guidance**

- [Project Development Procedures Manual \(PDPM\), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles 1 & 2](#)

205.10.60 Updated ECR

Includes all efforts necessary to update the Environmental Commitments Record (ECR), originally prepared at 180.15.20, and its associated documentation (e.g., Mitigation Monitoring and Reporting Record (MMRR) or Permits, Agreements, and Mitigation (PAM)). The update must be coordinated with Design. The ECR (which should also be updated at WBS 235.40, 270.70, and 295.35) is used as a part of the Environmental input for the RE Pending File (255.40), Environmental Certification at RTL (260.15.15), and the Certificate of Environmental Compliance (295.35).

Guidance

- [Standard Environmental Reference \(SER\)](#)

205.10.95 Other Permits

Includes all permits not listed above, such as Bay Conservation and Development Commission (BCDC) permit, Tahoe Regional Planning Agency (TRPA) permit, and flood control district permits.

Guidance

- [Project Development Procedures Manual \(PDPM\), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles 1 & 2](#)

205.15 Railroad Agreements

All work involved in preparing a Railroad Service Contract, a Railroad Construction and Maintenance Agreement and Public Utility Commission (PUC) application.

End Product(s)

- Transmittal of a Clearance Memo from the Structures Agreements Section to Office Engineer, project cannot be advertised prior to this clearance.

205.15.05 Plan Approval**Guidance**

- [Project Development Procedures Manual \(PDPM\), Chapter 3, Sections 3 & 8](#)

205.15.10 Special Provisions and Insurance Clauses**Guidance**

- [Project Development Procedures Manual \(PDPM\), Chapter 3, Sections 3 & 8](#)

205.15.15 Service Contract for Railroad Services**Guidance**

- [Project Development Procedures Manual \(PDPM\), Chapter 3, Sections 3 & 8](#)

205.15.20 Construction and Maintenance Agreement**Guidance**

- [Project Development Procedures Manual \(PDPM\), Chapter 3, Sections 3 & 8](#)
- Right of Way Manual - Reference Version

205.15.25 PUC Exhibits and Application**Guidance**

- Drafting and Plans Manual of Instruction, Article 3-2.7
- [Project Development Procedures Manual \(PDPM\), Chapter 3, Sections 3 & 8](#)

- Right of Way Manual - Reference Version

205.15.99 Other Railroad Agreement Products

All other work, during the Railroad Agreement efforts, not defined or covered in other 205.15 elements.

205.25 Agreement for Material Sites

Prepare and execute agreements for non-commercial borrow and disposal material sites. This includes identifying, obtaining necessary environmental clearance (if any), and preparing a reclamation plan.

Guidance

- Highway Design Manual (HDM), Chapter 100, Topic 111
- [Project Development Procedures Manual \(PDPM\), Chapter 13, Article 3; Chapter 16, All](#)
- Right of Way Manual - Reference Version

Sub-Tasks

- Negotiate material or disposal royalties
- Prepare and review Materials Agreement
- Execute Materials Agreement
- Environmental clearance
- Prepare reclamation plan.

End Product(s)

- Copies of the Materials Agreement have been distributed to the appropriate units.

205.30 Executed Maintenance Agreement

Prepare and execute Maintenance Agreement with local agency.

Guidance

- [Project Development Procedures Manual \(PDPM\), Chapter 13, Article 4; Chapter 16, All](#)

Sub-Tasks

- Identify facilities within the State's access control limits that will be maintained by the local agency
- Negotiate agreement with local agencies.
- Draft and execute agreement

End Product(s)

- Executed Maintenance Agreements

205.45 MOU from Tribal Employment Rights Office (TERO)

Obtain Memorandum of Understanding from either the tribal government or the Tribal Rights Office (TERO) for Native American preference in hiring and for TERO Tax if on a reservation.

Sub-Tasks

None identified.

End Product(s)

None Identified.

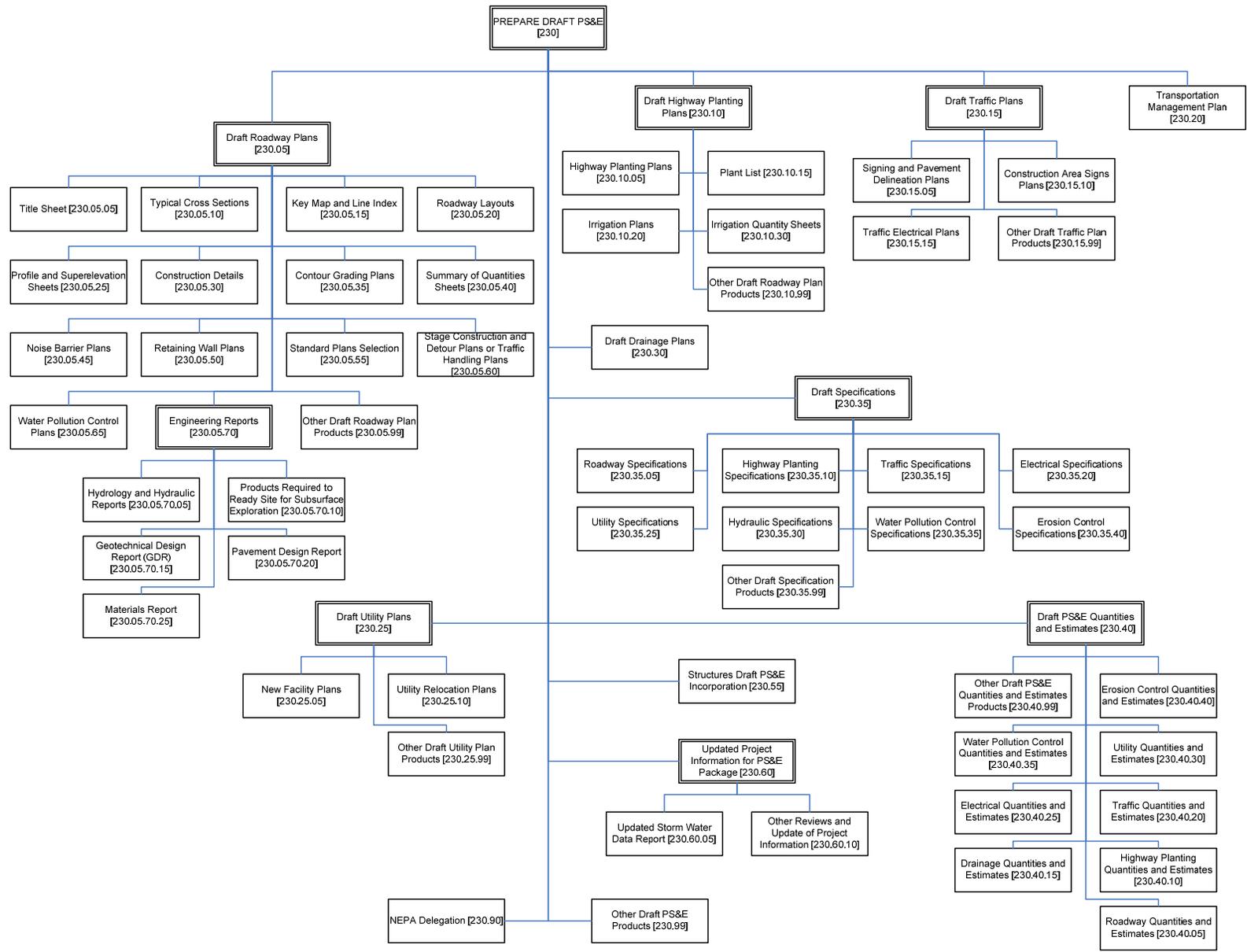
205.55 NEPA Delegation

Includes all Permits and Agreements, work previously performed by FHWA, but which is now the Department's responsibility as a result of full NEPA delegation from FHWA under SAFETEA-LU.

Guidance

- [Standard Environmental Reference](#)
- [FHWA California Division Home Page](#)

230 Prepare Draft PS&E



230 Prepare Draft PS&E

Work involved in the preparation and review of draft roadway plans, specifications and estimates. Includes roadway design and preparation of functional PS&Es. Also includes incorporation of the Draft Structures PS&E into Draft District PS&E.

230.05 Draft Roadway Plans

Includes all activities, from the base maps (skeletons), such as design, delineation, field reviews, and internal/external coordination (see sub-tasks) necessary to develop draft roadway plan sheets for construction contract.

End Product(s)

- Roadway Plans for draft PS&E district circulation.

230.05.05 Title Sheet

230.05.10 Typical Cross Sections

Guidance

- Drafting and Plans Manual of Instruction, Articles 4-2.2 & 4-2.5
- Highway Design Manual (HDM), Chapter 100, Topic 103 & Chapter 600, Topic 602
- [Project Development Procedures Manual \(PDPM\), Chapter 14, Sections 1 & 2](#)

230.05.15 Key Map and Line Index

230.05.20 Roadway Layouts

Guidance

- Drafting and Plans Manual of Instruction, Article 4-2.5
- [Project Development Procedures Manual \(PDPM\), Chapter 14, Sections 1 & 2](#)

230.05.25 Profile and Super elevation Sheets

Guidance

- Drafting and Plans Manual of Instruction, Article 4-2.5
- [Project Development Procedures Manual \(PDPM\), Chapter 14, Sections 1 & 2](#)

230.05.30 Construction Details

230.05.35 Contour Grading Plans

Guidance

- Drafting and Plans Manual of Instruction, Article 4-2.7
- [Project Development Procedures Manual \(PDPM\), Chapter 14, Sections 1 & 2](#)

230.05.40 Summary of Quantities Sheets

Guidance

- [Project Development Procedures Manual \(PDPM\), Chapter 14, Sections 1 & 2](#)

230.05.45 Noise Barrier Plans**Guidance**

- Drafting and Plans Manual of Instruction, Article 4-2.2
- Highway Design Manual (HDM), Chapter 1100
- OTA Standard Drawings
- [Project Development Procedures Manual \(PDPM\), Chapter 14, Sections 1 & 2](#)
- Technical Noise Supplement
- Traffic Noise Analysis Protocol

230.05.50 Retaining Wall Plans**Guidance**

- Standard Plans
- Drafting and Plans Manual of Instruction, Article 4-2.19
- Highway Design Manual (HDM), Chapter 200, Topic 210
- [Project Development Procedures Manual \(PDPM\), Chapter 14, Sections 1 & 2](#)

230.05.55 Standard Plans Selection**230.05.60 Stage Construction and Detour Plans or Traffic Handling Plans****Guidance**

- Standard Plans
- Construction Manual, Section 2-30
- Drafting and Plans Manual of Instruction, Article 4-2.14
- Highway Design Manual (HDM), Chapter 100, Topic 106, Index 110.6
- Plans, Specifications, and Estimates Guide, Section 5
- [Project Development Procedures Manual \(PDPM\), Chapter 14, Sections 1 & 2](#)
- Traffic Manual, Ch.7
- California Manual on Uniform Traffic Control Devices

230.05.65 Water Pollution Control Plans**230.05.70 Engineering Reports**

Activities by various cross-functional units (e.g., Design, Environmental, R/W) necessary to finalize project design reports needed to establish design parameters and complete design (see sub-tasks). The Preliminary report was prepared under WBS 185.

End Product(s)

- Various Engineering Reports

230.05.70.05 Hydrology and Hydraulic Reports

This task includes all efforts required to finalize Hydrology and Hydraulic Reports.

Guidance

- Highway Design Manual (HDM), Chapter 800
- [Project Development Procedures Manual \(PDPM\), Chapter 14, Section 1, Article 1](#)

230.05.70.10 Products Required to Ready Site for Subsurface Exploration

This task includes all efforts required to ready a site for subsurface exploration. Subsurface exploration may require prior acquisition of rights to enter, resource/regulatory agency permits, or other cross-functional (e.g., Design, Environmental, R/W) compliance efforts. These products include, but are not limited to:

- Developing a subsurface exploration plan (drilling and geophysics),
- Obtaining rights of entry for access to private and public lands,
- Obtaining permits from applicable permitting agencies,
- Determining if the site contains hazardous waste,
- Preparing traffic management plans and providing traffic control, if needed,
- Providing physical access for drilling and other exploration equipment (grubbing and clearing, grading, fence removal, etc.),
- Clearing utilities,
- Requesting drilling, CPT, and geophysics.

Guidance

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1](#)
- [Joint R/W and DEA Memo Dated May 22, 2002 regarding Rights-to Enter](#)
- [Joint R/W and DEA Memo dated January 7, 2003, Clarifying Memo Dated May 22, 2002](#)
- Right of Way Manual - Forms and Exhibits, Chapter 8
- Right of Way Manual - Reference Version, Chapter 8
- [Standard Environmental Reference](#)
- [Project Development Procedures Manual \(PDPM\), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles 1 & 2](#)
- Deputy Directive 60 regarding TMP Requirements
- TMP Guidelines
- Traffic Manual
- Highway Capacity Manual
- HOV Guidelines
- Ramp Metering Design Guidelines
- Traffic Bulletins
- Manual of Uniform Traffic Control Devices
- Construction Manual, Section 2-30
- Drafting and Plans Manual of Instruction, Article 4-2.14
- Highway Design Manual (HDM), Chapter 100, Topic 110, Index 110.6
- Code of Safe Drilling Practices

230.05.70.15 Geotechnical Design Report (GDR)

This task includes all efforts required to finalize a Geotechnical Design Report (GDR), from subsurface exploration through report and boring log completion. The purpose of the GDR is to provide the geotechnical recommendations required to produce a complete District PS&E. A

GDR is to be prepared by Geotechnical Services, Division of Engineering Services for all projects that involve designs for cut slopes, embankments, earthwork, landslide remediation, standard plan retaining walls, standard plan sound walls, overhead signs, changeable message signs, groundwater studies, erosion control features, sub-excavation and any other studies involving geotechnical investigations and engineering geology. The GDR requires sufficient subsurface exploration, including test borings, soundings and/or geophysics, to characterize geologic and geotechnical conditions for the project. The GDR uses information collected during subsurface exploration to provide recommendations that support both the design and construction of the project. The GDR shall provide, but not be limited to, the following:

- Description of the project
- Summary of existing facilities and proposed improvements
- Summary of pertinent reports and investigations
- Physical setting
- Discussion of field exploration
- Summary of geotechnical testing
- Geotechnical conditions
- Geotechnical analysis and design
- Material sources
- Material disposal
- Construction considerations
- Recommendations and specifications

Guidance

- [Project Development Procedures Manual \(PDPM\), Chapter 2, Section 9; Chapter 3, Section 6; Chapter 9, Article 9; Chapter 20, Section 2](#)
- Highway Design Manual Chapter 100, Topics 113 and 114; Chapter 200, Topics 203, 208, and 210; Chapter 800, Topics 802 and 805
- Code of Safe Drilling Practices
- Guidelines for Geotechnical Design Reports

230.05.70.20 Pavement Design Report

This task includes all efforts required to finalize a Pavement Design Report. Requires all tests, such as deflection study, required to complete preliminary structural section design recommendations.

Guidance

- Highway Design Manual Chapters 060 and 610 through 670

230.05.70.25 Materials Report

This task includes all efforts required to finalize a Materials Report. A Materials Report must be prepared for all projects that involve any of the following components:

- Pavement structure recommendations and/or pavement studies
- Culverts (or other drainage materials)
- Corrosion studies

- Materials disposal sites
- Slide prone areas with erosive soils

The Materials Report may be either a single report or a series of reports that contains one or several of the components listed above. The District Materials Engineer will either prepare the Materials Report or review and accept Materials Report(s) prepared by others.

Guidance

- Highway Design Manual (HDM), Chapter 100, Topic 114
- Plans, Specifications, and Estimates Guide, Section 4-3.02B

230.05.99 Other Draft Roadway Plan Products

All other work, during the Draft Roadway Plan efforts, not defined or covered in other 230.05 elements.

230.10 Draft Highway Planting Plans

All activities, (such as design, field reviews, delineation, and internal/external coordination) (see sub-tasks) necessary to develop highway-planting plan sheets for construction contract.

End Product(s)

- Highway Planting Plans for draft PS&E district circulation.

230.10.05 Highway Planting Plans

Guidance

- Standard Plans
- Drafting and Plans Manual of Instruction, Articles 4-2.2, 4-2.8, & 4-2.9
- Highway Design Manual (HDM), Chapter 900
- Plans, Specifications, and Estimates Guide, Sections 3, 4, & 5
- [Project Development Procedures Manual \(PDPM\), Chapter 14, Sections 1 & 2](#)

230.10.15 Plant List

230.10.20 Irrigation Plans

230.10.30 Irrigation Quantity Sheets

230.10.99 Other Draft Roadway Plan Products

All other work, during the Draft Roadway Plan efforts, not defined or covered in other 230.10 elements.

230.15 Draft Traffic Plans

All activities, (such as design, field reviews, delineation, and internal/external coordination) necessary to develop traffic plan sheets for construction contract.

End Product(s)

- Traffic Plans for draft PS&E district circulation

230.15.05 Signing and Pavement Delineation Plans

Guidance

- Standard Plans
- Drafting and Plans Manual of Instruction, Articles 4-1.2, 4-2.14 - 16, 4-2.18, & 4-2.22

- [Project Development Procedures Manual \(PDPM\), Chapter 14, Sections 1 & 2](#)
- California Manual on Uniform Traffic Control Devices

230.15.10 Construction Area Signs Plans

Guidance

- Drafting and Plans Manual of Instruction, Articles 4-2.16 & 4-2.18
- Project Development Procedures Manual (PDPM), Chapter 14, Sections 1 & 2
- California Manual on Uniform Traffic Control Devices

230.15.15 Traffic Electrical Plans

Guidance

- Standard Plans
- Drafting and Plans Manual of Instruction, Article 4-1.2 & 4-2.22
- Plans, Specifications, and Estimates Guide, Sections 3, 4, & 5
- [Project Development Procedures Manual \(PDPM\), Chapter 14, Sections 1 & 2](#)
- Traffic Manual, Ch.9 Lighting

230.15.99 Other Draft Traffic Plan Products

All other work, during the Draft Traffic Plan efforts, not defined or covered in other 230.15 elements.

230.20 Transportation Management Plan

This effort includes all activities necessary to update or develop the project's Transportation Management Plan to accompany the project PS & E.

Guidance

- Deputy Directive 60 regarding TMP Requirements
- TMP Guidelines
- Traffic Manual, Ch.7 Highway Capacity Manual
- HOV Guidelines
- Ramp Metering Design Guidelines
- Traffic Bulletins
- California Manual on Uniform Traffic Control Devices Construction Manual, Section 2-30
- Drafting and Plans Manual of Instruction, Article 4-2.14
- Highway Design Manual (HDM), Chapter 100, Topic 110, Index 110.6
- [Project Development Procedures Manual \(PDPM\), Chapter 14, Sections 1 & 2](#)

Sub-Tasks

- Itemize capital outlay costs tied to main project as State Furnished Material and expenses using the BEES
- Identify SSPs to be included in contract document
- Coordinate lane closures for multiple projects in the same area to determine impact on this project
- Coordinate major closures with neighboring districts, HQ, and local agencies to determine impact on this project
- Refine/ finalize traffic contingency plan pending contractor's contingency plan
- Update TMP/lane closure database

End Product(s)

- The Transportation Management Plan (including its Plans, Specs, and Estimates)

230.25 Draft Utility Plans

All activities, (such as design, delineation, and internal/external coordination) necessary to develop draft utility plan sheets for construction contract.

End Product(s)

- Utility Plans for draft PS&E district circulation

230.25.05 New Facility Plans

New utilities required to serve the facilities or new encroachments.

Guidance

- Cooperative Agreement Manual
- Drafting and Plans Manual of Instruction, Article 4-2.11 & 4-2.12
- Highway Design Manual (HDM), Chapter 800, Topic 803
- [Project Development Procedures Manual \(PDPM\), Chapter 14, Sections 1 & 2](#)

230.25.10 Utility Relocation Plans

Includes sanitary sewer relocation plans. This includes preparation of the Utility Location Contract Plans. For effort to identify location of existing utilities use WBS 200.05 and 200.10

Guidance

- Drafting and Plans Manual of Instruction, Article 4-2.13

230.25.99 Other Draft Utility Plan Products

All other work, during the Draft Utility Plan efforts, not defined or covered in other 230.25 elements.

230.30 Draft Drainage Plans

All activities, (such as design, delineation, field reviews, and internal/external coordination) (see sub-tasks) necessary to develop draft drainage plan sheets for construction contract.

Guidance

- Standard Plans
- Cooperative Agreement Manual
- Drafting and Plans Manual of Instruction, Article 4-2.8 to 4-2.12
- Highway Design Manual (HDM), Chapters 800, 820, & 850
- [Project Development Procedures Manual \(PDPM\), Chapter 14, Sections 1 & 2](#)

Sub-Tasks

None Identified.

End Product(s)

- Drainage Plans for draft PS&E district circulation.

230.35 Draft Specifications

Activities necessary to develop the project draft Special Provisions.

End Product(s)

- Specifications ready for draft District PS&E Circulation

230.35.05 Roadway Specifications**Guidance**

- Standard Special Provisions (SSPs)
- Standard Specifications Plans, Specifications, and Estimates Guide, Sections 1, 2, & 4

230.35.10 Highway Planting Specifications**Guidance**

- Standard Special Provisions (SSPs)
- Standard Specifications Plans, Specifications, and Estimates Guide, Sections 1, 2, & 4

230.35.15 Traffic Specifications

Includes preparation of lane closure charts.

Guidance

- Standard Special Provisions (SSPs)
- Standard Specifications Plans, Specifications, and Estimates Guide, Sections 1, 2, & 4

230.35.20 Electrical Specifications**Guidance**

- Standard Special Provisions (SSPs)
- Standard Specifications Plans, Specifications, and Estimates Guide, Sections 1, 2, & 4

230.35.25 Utility Specifications**Guidance**

- Standard Special Provisions (SSPs)
- Standard Specifications Plans, Specifications, and Estimates Guide, Sections 1, 2, & 4

230.35.30 Hydraulic Specifications**Guidance**

- Standard Special Provisions (SSPs)
- Standard Specifications Plans, Specifications, and Estimates Guide, Sections 1, 2, & 4

230.35.35 Water Pollution Control Specifications**230.35.40 Erosion Control Specifications****Guidance**

- Standard Special Provisions (SSPs)
- Standard Specifications Plans, Specifications, and Estimates Guide, Sections 1, 2, & 4

230.35.99 Other Draft Specification Products

All other work, during the Draft Specification efforts, not defined or covered in other 230.35 elements.

230.40 Draft PS&E Quantities and Estimates

Includes all activities necessary to develop project quantities and estimates.

Note: Delineation of Quantity Sheets included in development of plans (WBS 230.05, 230.10, 230.15, 230.25, 230.30.)

End Product(s)

- Draft Quantities and Estimates ready for draft District PS&E Circulation

230.40.05 Roadway Quantities and Estimates

Includes preparation of roadway & other cross sections.

Guidance

- Standard Plans
- Drafting and Plans Manual of Instruction, Article 4-2.17
- Plans, Specifications, and Estimates Guide, Section 3
- [Project Development Procedures Manual \(PDPM\), Chapter 14, Sections 2, Article 5; Chapter 20, Section 3](#)
- Standard Specifications

230.40.10 Highway Planting Quantities and Estimates

Guidance

- Standard Plans
- Plans, Specifications, and Estimates Guide, Section 3
- [Project Development Procedures Manual \(PDPM\), Chapter 14, Sections 2, Article 5; Chapter 20, Section 3](#)
- Standard Specifications

230.40.15 Drainage Quantities and Estimates

Guidance

- Standard Plans
- Drafting and Plans Manual of Instruction, Article 4-2.11
- Plans, Specifications, and Estimates Guide, Section 3
- [Project Development Procedures Manual \(PDPM\), Chapter 14, Sections 2, Article 5; Chapter 20, Section 3](#)
- Standard Specifications

230.40.20 Traffic Quantities and Estimates

Guidance

- Plans, Specifications, and Estimates Guide, Section 3
- [Project Development Procedures Manual \(PDPM\), Chapter 14, Sections 2, Article 5; Chapter 20, Section 3](#)

230.40.25 Electrical Quantities and Estimates

Guidance

- Standard Plans
- Drafting and Plans Manual of Instruction, Article 4-2.11
- Plans, Specifications, and Estimates Guide, Section 3
- [Project Development Procedures Manual \(PDPM\), Chapter 14, Sections 2, Article 5; Chapter 20, Section 3](#)
- Standard Specifications

230.40.30 Utility Quantities and Estimates

Includes sanitary sewer relocation plans.

Guidance

- Standard Plans
- Drafting and Plans Manual of Instruction, Article 4-2.12
- Highway Design Manual (HDM), Chapter 600, Topic 602, Index 602.1
- Plans, Specifications, and Estimates Guide, Section 3 & 4-5.01
- [Project Development Procedures Manual \(PDPM\), Chapter 14, Sections 2, Article 5; Chapter 20, Section 3](#)
- Standard Specifications

230.40.35 Water Pollution Control Quantities and Estimates**230.40.40 Erosion Control Quantities and Estimates****230.40.99 Other Draft PS&E Quantities and Estimates Products**

All other work, during the Draft PS&E Quantity and Estimate efforts, not defined or covered in other 230.40 elements.

230.55 Structures Draft PS&E Incorporation

This activity does not include reviewing and commenting on the Draft PS&E which is included in activity 255.05.

Guidance

- Plans, Specifications, and Estimates Guide, Sections 1 & 2
- [Project Development Procedures Manual \(PDPM\), Chapter 14, Sections 2](#)

End Product(s)

- A combined district Draft PS&E package.

230.60 Updated Project Information for PS&E Package

Includes all work necessary to conduct reviews and to update project information needed to begin production of the PS&E package and all of its components. Also includes the 60% Constructability Review.

Note: The numbering of this level 6 task does not imply order or sequence. This task should be scheduled according to the project scheduling needs.

Guidance

- [Project Development Procedures Manual \(PDPM\), Chapter 8, Sections 6](#)

End Product(s)

- Updated project information for the production of the PS&E Package.

230.60.05 Updated Storm Water Data Report**Guidance**

- Project Planning and Design Guide (PPDG), Section 7; Appendix E

230.60.10 Other Reviews and Update of Project Information

Includes all other work necessary to conduct reviews and to update project information and all of its components not included in Storm Water Data report.

230.90 NEPA Delegation

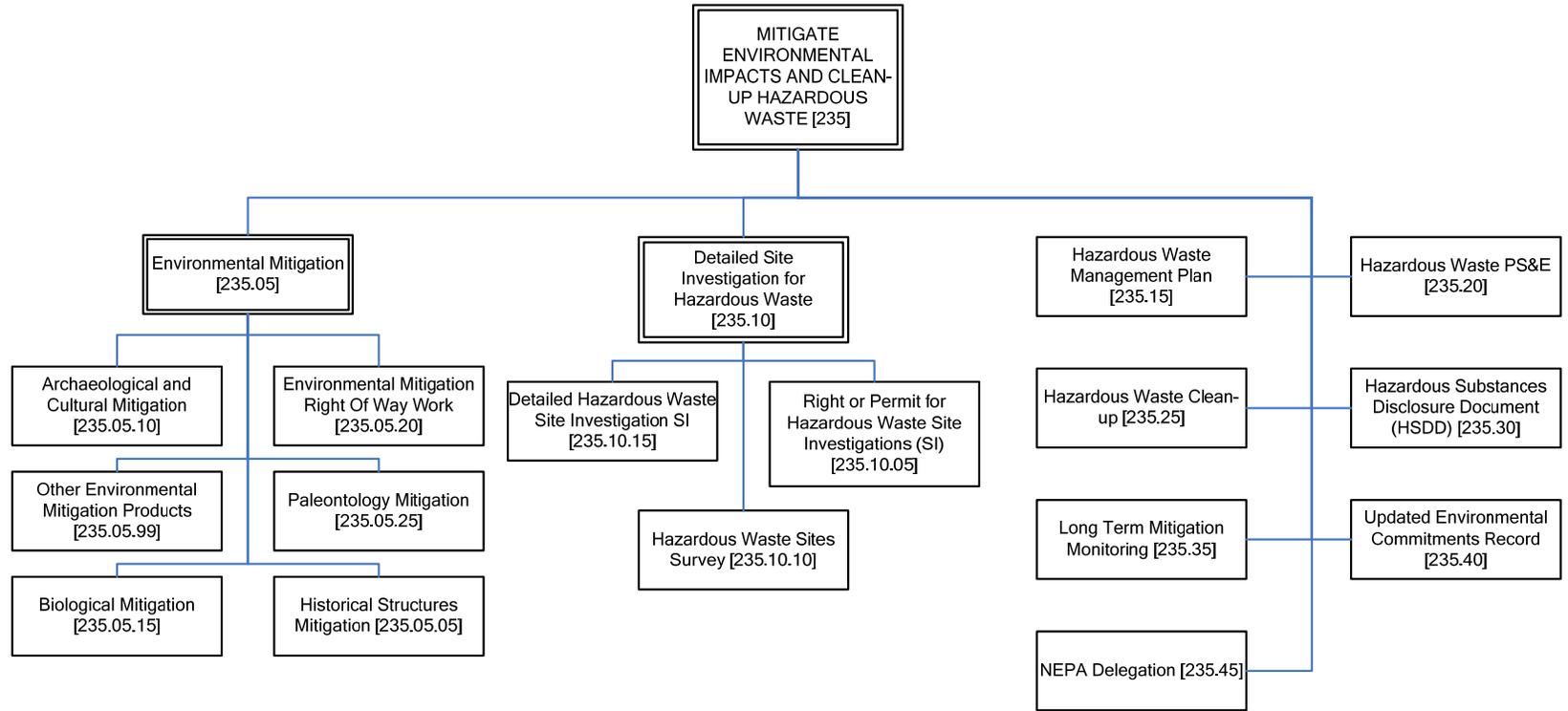
Includes all WBS 165.30, 175.25, 180.20, 205, 235.45, and 255.35 work previously performed by FHWA, but which is now the Department's responsibility as a result of full NEPA delegation from FHWA under SAFETEA-LU.

Guidance

- [Standard Environmental Reference](#)
- [FHWA California Division Home Page](#)

230.99 Other Draft PS&E Products

235 Mitigate Environmental Impacts and Clean-up Hazardous Waste



235 Mitigate Environmental Impacts and Clean-up Hazardous Waste

Work involved in mitigating environmental impacts - including hazardous waste cleanup - as required in order to construct a capital outlay project. Includes long-term mitigation and monitoring efforts if necessary within overall project scope.

Note: this effort is only to be used prior to Construction Contract Award. After Construction begins, use 270.80 and after Construction Contract Acceptance, use 295.40.

235.05 Environmental Mitigation

All work involved in order to accomplish environmental mitigation as determined in the Final Environmental Document (FED) and associated regulatory permits and agreements.

End Product(s)

- Completed environmental mitigation in accordance with the FED or related permits and agreements.

235.05.05 Historical Structures Mitigation

All work to move, sell, rehabilitate, or provide landscape buffers for historic structures. Includes historic buildings and historic engineering features such as bridges, roads, trails, canals, and railroads.

Guidance

- CT Guidelines for Identifying & Evaluating Historic Landscapes
- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 2, Chaps. 2, 5, and 6](#)

Sub-Tasks

- Marketing Plan
- Historic American Building Survey (HABS) recordation
- Historic American Engineering Record (HAER)

End Product(s)

- Completion of all mitigation reported to FHWA, the State Historic Preservation Office (SHPO), and Advisory Council on Historic Preservation (ACHP).

235.05.10 Archaeological and Cultural Mitigation

Consists of archaeological data recovery (Phase III) and other research related to the site's National Register of Historic Places (NRHP) eligibility (excavation, analyses, report preparation, and distribution). This activity is only applicable when an archaeological site is eligible for the National Register of Historic Places for its research potential under Criterion "d". This activity also includes non-excavation work related to the data recovery. Please refer to activity 165.20.60 for "Native American consultation for Phase III Archaeological Study".

Guidance

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 2, Chaps. 2 and 7](#)

Sub-Tasks

- Pre-excavation burial agreement with Native Americans.
- Arrangements for Native American monitors.
- Curation agreement
- Site mapping.
- Right of Entry, if needed.
- Site visit with consultants and Native Americans.
- All field work.
- Analyses of recovered materials.
- Repatriations of human remains and sacred objects, if recovered.
- Preparation, submittal, and review of draft report on excavations
- Publish Phase III final report.
- Transfer collection and field notes and pay fees to curation facility.
- Transmit final report to FHWA, SHPO, ACHP, tribes, and the scientific community and obtain approval letters if required.
- Establish an Environmental Sensitive Area (ESA) to protect remaining portions of site.

End Product(s)

- Published Phase III final report on results of excavation and research
- Curated collection
- Fulfillment of mitigation requirements.

235.05.15 Biological Mitigation

The design and monitoring of all biological mitigation measures as outlined in the final environmental document and included as a part of the parent project that created the impact. If a separate contract is used for biological mitigation, the effort required to develop that separate project should use the full range of WBS codes. In the event that permit renewals or extensions result in new or changed requirements, the Environmental Commitments Record (ECR) and related documents (e.g., MMRR), RE Pending File, Environmental Certification at RTL and similar documents must also be updated.

Guidance

- Construction Manual, Section 2-05
- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 3, Chaps. 5](#)

Sub-Tasks

- Prepare Mitigation Monitoring Plan
- Design and delineation of mitigation measures into project plans.
- Preparation of special provisions
- Reviews by affected units and regulatory agencies,
- Prepare and distribute monitoring reports
- Prepare and submit permit renewal and extension requests to resource agencies.

End Product(s)

- Fulfillment of biological mitigation requirements

235.05.20 Environmental Mitigation Right Of Way Work

This level 7 activity covers R/W efforts in support of Environmental Mitigation Parcel work. It involves Right of Way Engineering; appraisal and acquisition efforts connected to a mitigation parcel not covered in WBS activities 220 and 225.

Guidance

- Right of Way Manual - Forms and Exhibits, Chapters 7 & 8
- Right of Way Manual - Reference Version, Chapters 7 & 8
- Surveys Manual

Sub-Tasks

- Engineering of Mitigation parcel
- Appraise Mitigation parcel
- Acquire Mitigation parcel
- Surveys of Mitigation parcel
- Transfer of Mitigation parcel to another agency

End Product(s)

- Parcel(s) acquired for Mitigation and all R/W Mitigation work complete (includes transfer of mitigation parcel to another agency).

235.05.25 Paleontology Mitigation

All tasks related to the recovery of paleontological resources affected by the project related activities, Contract (or task order) oversight, coordination and monitoring of field work, report review.

Note: See WBS 100.15 for tasks and activities covering the preparation and administration of consultant contracts or task orders.

Guidance

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 8](#)

Sub-Tasks

- Review and update, as necessary, the Paleontological Mitigation Plan (PMP)
- Contract development and oversight
- Review of consultant-prepared reports on mitigation work.

End Product(s)

- Paleontological Mitigation Report
- Paleontological Stewardship Summary

235.05.99 Other Environmental Mitigation Products

All other work, during the Environmental Mitigation efforts, not defined or covered in other 235.05 elements.

235.10 Detailed Site Investigation for Hazardous Waste

Perform a detailed Site Investigation (SI) through development of a task order using the District/Region's on-call contract. The investigation should fully characterize the contamination, identify appropriate and feasible cleanup alternatives, and estimate cleanup costs.

End Product(s)

- A detailed hazardous waste remedial investigation and feasibility report detailing the investigation, outlining the feasible remedial technologies applicable to the particular site, and the costs for those efforts.

235.10.05 Right or Permit for Hazardous Waste Site Investigations (SI)

District Hazardous Waste Technical Specialists (DHWTS) requests that District Right of Way (R/W) obtain right or permit to enter onto an identified property for the purpose of conducting a hazardous waste site investigation. The DHWTS provides technical support to R/W to obtain the right or permit to enter. R/W coordinates the effort with Legal if necessary. This code is not used for miscellaneous acquisition by R/W Contracts (e.g., mobile homes, amended contracts, leasehold interests, signboards, waivers). Adequate time should be requested in the right or permit to ensure completion of the detailed SI.

Guidance

- [Project Development Procedures Manual \(PDPM\), Chapter 18](#)
- Right of Way Manual - Forms and Exhibits, Chapter 8
- Right of Way Manual - Reference Version, Chapter 8
- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 10](#)

235.10.10 Hazardous Waste Sites Survey

Effort required to determine which identified sites require a detailed Site Investigation.

Guidance

- Surveys Manual
- [Project Development Procedures Manual \(PDPM\), Chapter 18, All](#)
- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 10](#)

235.10.15 Detailed Hazardous Waste Site Investigation (SI)

Effort required to develop a Detailed Site Investigation Task Order to access an On-Call Contract to conduct a detailed SI and feasibility studies or to develop a workplan for conducting the detailed SI. Consultants under the direction and control of the district hazardous waste task order manager or other assigned staff will perform the site investigation.

Guidance

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 10](#)
- [Project Development Procedures Manual \(PDPM\), Chapter 18](#)

235.15 Hazardous Waste Management Plan

The remedial investigation and feasibility studies of potential mitigation strategies for the site constitute the Hazardous Waste Management Plan (HWMP). A part of the HWMP is the Remedial Action Plan (RAP). This is the actual plan necessary for implementing the remediation.

Guidance

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 10](#)
- [Project Development Procedures Manual \(PDPM\), Chapter 18](#)

Sub-Tasks

- Develop RAP, which may involve developing a task order
- Review RAP and determine scope of HWMP
- Develop HWMP
- Approve HWMP

End Product(s)

- Hazardous Waste Management Plan
- Remedial Action Design

235.20 Hazardous Waste PS&E

The Hazardous Waste Management Plan (HWMP) and the associated Remedial Action Plan (RAP) requires the development of hazardous waste remediation design plans, specifications, and estimates (PS&E). To contract for the actual site cleanup uses these PS&E. Department staff can complete the PS&E or use contract consultants.

Guidance

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 10](#)
- [Project Development Procedures Manual \(PDPM\), Chapter 18](#)

Sub-Tasks

- Review HWMP
- Determine how the PS&E will be prepared, either in-house or by contract consultant
- Consultation with PS&E preparer
- Task Order oversight & administration
- Review PS&E, including reviews by District and HQ functions

End Product(s)

- Hazardous Waste PS&E

235.25 Hazardous Waste Clean-up

Cleanup requires a contract or task order and PS&E based on the Hazardous Waste Management Plan (HWMP). Hazardous Waste Technical Specialists provide support to Construction's administration of the cleanup contract.

Note: Clean-up activities are performed by contract either before construction or as part of it.

Guidance

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 10](#)
- [Project Development Procedures Manual \(PDPM\), Chapter 18, All](#)

Sub-Tasks

None identified.

End Product(s)

- Cleanup report if required by a resource/regulatory agency.

235.30 Hazardous Substances Disclosure Document (HSDD)

Hazardous Waste Technical Staff prepare and approve the HMDD-A, including validation of site investigation findings and cleanup completed by others. If a proposed property acquisition is located outside the boundary of previous hazardous waste studies for the project, additional

investigations may be needed before acquisition. If prior studies indicate that a situation exists where some action by the existing owner is required, progress of that action (including tank removal), if any, will be assessed and further recommendations made as needed before the HMDD-A can be approved.

Note: The HSDD has been replaced with the Hazardous Material Disclosure Document – Acquisition (HMDD-A)

Guidance

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 10](#)

Sub-Tasks

- Review of R/W Certification for consistency with prior project scope.
- Field review of site
- Verification of status of any recommended remediation (tank removal) by owner
- Preparation and approval of the HMDD-A for acquisition

End Product(s)

- HMDD-A , with any necessary recommendations.

235.35 Long Term Mitigation Monitoring

Work involved in the monitoring of mitigation sites over an extended period to ensure compliance with objectives of the permit issued by the regulatory agency. Includes work beyond the scope of activity 235.10 through 235.25.

Guidance

- [Standard Environmental Reference \(SER\)](#)

Sub-Tasks

- Field review of site
- Develop and submit performance reports to the regulatory agency
- Perform remedial action to correct deficiencies

End Product(s)

- Approved site closure documentation from regulatory agencies.

235.40 Updated Environmental Commitments Record

Includes all efforts necessary to update the Environmental Commitments Record (ECR) and its associated documentation (e.g., Mitigation Monitoring and Reporting Record (MMRR) or Permits, Agreements, and Mitigation (PAM)) prepared at 180.15.20. The updated ECR must be coordinated with Design. The ECR (which should also be updated at WBS 255.15, 255.40, 260.75, 270.70, and 295.35) is used as a part of the Environmental input for the RE Pending File (255.40), Environmental Certification at RTL (260.15.15), and the Certificate of Environmental Compliance (295.35).

Guidance

- [Environmental Reference \(SER\)](#)

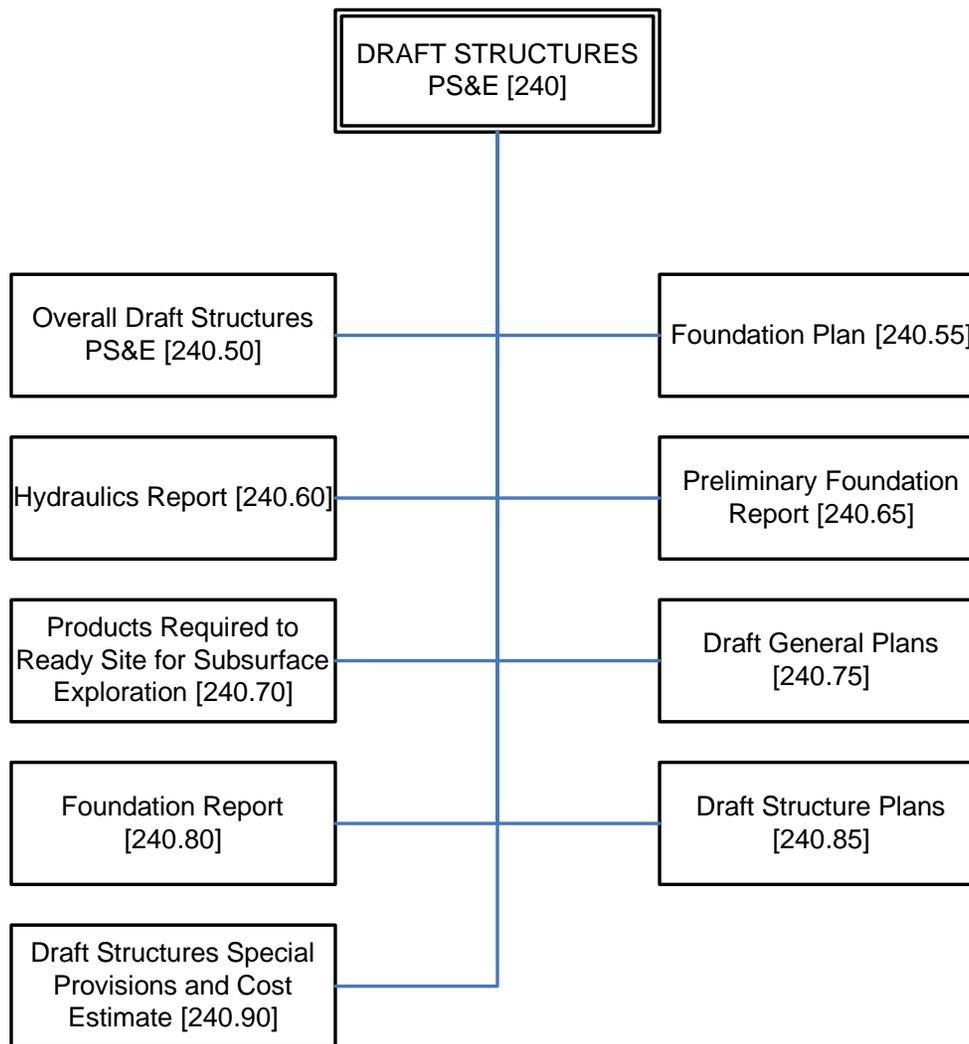
235.45 NEPA Delegation

Includes all WBS 235 (Environmental Impacts Mitigation and Hazardous Waste Clean-up) work previously performed by FHWA, but which is now the Department's responsibility as a result of full NEPA delegation from FHWA under SAFETEA-LU.

Guidance

- [Standard Environmental Reference](#)
- [FHWA California Division Home Page](#)

240 Draft Structures PS&E



240 Draft Structures PS&E

Work involved in the development of Draft Structures Plans, Specifications, and Estimate.

240.50 Overall Draft Structures PS&E

This task includes all efforts involved in the development of the overall project's plans. Activities under this task are tracked on an overall project basis. Typically this is work done by the Structures Project Engineer and the Design Senior that does not apply to the specific tasks for each individual structure within overall project. Activities include, but are not limited to:

- Technical coordination of the project
- Technical project meetings with DES and District representatives
- Other non-specific activities that are directly related to the development of the Draft PS&E package

Guidance

- Bridge Design Aids, Sections 1-9, 11, & 13-15
- Bridge Design Details, Sections 1-20
- Bridge Design Memo to Designers, Sections 1- 22
- Bridge Design Practice
- Bridge Design Specifications
- Building Specifications
- MEWW Standard Drawings
- OTA Design Manual
- OTA Standard Drawings
- Pumping Plant Design Manual, Chapters 10-16
- Pumping Plant Design Manual, Appendices 1-6
- Highway Design Manual, Chapter 200, Topic 210
- Soil and Rock Logging, Classification, Description, and Presentation Manual Project Development Procedures Manual (PDPM), Chapter 14, Section 3

240.55 Foundation Plan

This task includes the creation of the foundation plan and submitting to DES Structure Design to be incorporated into structure plans. Activities include, but are not limited to:

- District Submittal Review - This task includes reviewing district submitted Bridge Site Submittals (BSS) for completeness. This is an interactive process with District, DES Design engineers and PI staff. The information obtained in this review process is imperative to the development of the Foundation Plan.
- Structure Site Investigation - This task includes conducting site and topographic and hydrologic surveys at structure locations to be used in preparation of structure foundation plans.
- Preliminary Investigation Report - This task includes coordinating DES Design Engineer's requests for photographs and descriptions of the proposed work-site conditions; processing the BSS, site and topographic data in preparation of foundation plan creation.

Guidance

- Bridge Design Aids, Sections 10 & 11
- Bridge Design Details, Sections 1, 2, & 3
- Bridge Design Memo to Designers, Sections 1 & 17
- Bridge Design Specifications
- OSFP Information & Procedures Guide, Chapters 2 & 3
- Soils and Rock Logging Classification Manual (Field Guide)
- Area Bridge Maintenance Engineer Manual, Sections 3.1 & 3.3
- Project Development Procedures Manual (PDPM), Chapter 14, Section 1, Article 3

240.60 Hydraulics Report

This task includes all tasks needed in the generation of a Hydraulic Report for use by the Design Engineer to prepare the Structure Plan sheets.

240.65 Preliminary Foundation Report

This task includes all efforts required to produce a Preliminary Foundation Report (PFR). A PFR is required during the early stages of draft structures PS&E for a project and shall be included as part of the Structures Type Selection. The PFR is used to document existing foundation conditions, make preliminary foundation recommendations, and identify the need for additional investigations, subsurface exploration, and studies. The PFR shall provide, but not be limited to, the following:

- Project Location
- Summary of Site Geology and Subsurface Conditions
- Scour Evaluation
- Corrosion Evaluation
- Preliminary Seismic Data and Recommendations
- As-Built Foundation Data
- Preliminary Foundation Recommendations
- Additional Field Work and Laboratory Testing

Guidance

- Guidelines for Structure Foundation Reports. Chapter 2

240.70 Products Required to Ready Site for Subsurface Exploration

This task includes all efforts required to ready a site for subsurface exploration. Subsurface exploration may require prior acquisition of rights to enter, resource/regulatory agency permits, or other cross-functional (e.g., Design, Environmental, R/W) compliance efforts. These products include, but are not limited to:

- Developing a subsurface exploration plan (drilling and geophysics),
- Obtaining rights of entry for access to private and public lands,
- Obtaining permits from applicable permitting agencies,
- Determining if the site contains hazardous waste,
- Preparing traffic management plans and providing traffic control, if needed,
- Providing physical access for drilling and other exploration equipment (grubbing and clearing, grading, fence removal, etc.),
- Clearing utilities,
- Requesting drilling, (Cone Penetrometer Test) CPT, and geophysics.

Guidance

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1](#)
- [Joint R/W and DEA Memo Dated May 22, 2002 regarding Rights-to Enter](#)
- [Joint R/W and DEA Memo dated January 7, 2003, Clarifying Memo Dated May 22, 2002](#)
- Right of Way Manual - Forms and Exhibits, Chapter 8
- Right of Way Manual - Reference Version, Chapter 8
- Standard Environmental Reference
- [Project Development Procedures Manual \(PDPM\), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles 1 & 2](#)
- Deputy Directive 60 regarding TMP Requirements
- TMP Guidelines
- Traffic Manual
- Highway Capacity Manual
- HOV Guidelines
- Ramp Metering Design Guidelines
- Traffic Bulletins
- Manual of Uniform Traffic Control Devices
- Construction Manual, Section 2-30
- Drafting and Plans Manual of Instruction, Article 4-2.14
- Highway Design Manual (HDM), Chapter 100, Topic 110, Index 110.6
- Code of Safe Drilling Practices

240.75 Draft General Plans

This task includes all efforts required to develop, review, approve and distribute draft Structures General Plans. The Preliminary Plan Approval process is part of this task and generally includes Type Selection Meetings, Seismic Retrofit Strategy Meetings, or review of all structure related facilities as required. Approved preliminary plans are the approved General Plans, and additional preliminary plans for buildings, or any other miscellaneous details as required. The activities include, but are not limited to:

- Prepare Preliminary Design
- Prepare Preliminary Plan Sheets
- Prepare Preliminary Quantities
- Prepare Preliminary Estimates
- Prepare Preliminary Specifications
- Prepare Type Selection Report or Seismic Retrofit Strategy Report
- Perform a Constructability Review (CR) of project General Plans
- Conduct Type Selection Meeting or Seismic Retrofit Strategy Meeting
- Update General Plans and General Plan Estimate
- Obtain Preliminary Plan Approval
- Distribute approved General Plans to stakeholders

Guidance

- Bridge Design Aids, Sections 10, 11, & 15
- Bridge Design Details, Sections 1, 2, & 3
- Bridge Design Memo to Designers, Sections 1 through 22
- Bridge Design Practice
- Bridge Design Specifications
- OSFP Information & Procedures Guide, Chapters 2 through 6

- Pumping Plant Design Manual, Chapters 1 through 9
- Pumping Plant Design Manual, Appendix 8
- Project Development Procedures Manual (PDPM), Chapter 14, Section 2, Article 3

240.80 Foundation Report

This task includes all efforts required to produce a Foundation Report (FR), from subsurface exploration through report and Log of Test Borings completion. The purpose of the FR is to provide the required geologic and geotechnical recommendations needed to produce a complete Structures PS&E. A Foundation Report is required for all structures (bridges, tunnels, non-standard plan retaining walls and soundwalls, overhead signs, maintenance stations, pumping plants/stations, toll plazas, etc.) when new, widening, retrofit, or modifications to existing structures are proposed. The FR requires sufficient subsurface exploration, including, but not limited to, test borings, soundings and/or geophysics, to characterize geologic and geotechnical conditions at the structure location. The Foundation Report uses information collected during subsurface exploration to provide recommendations that support both the design and construction of the structure. The FR shall provide, but not be limited to, the following:

- Project Location
- Summary of Site Geology and Subsurface Conditions
- Ground Water
- Scour Evaluation
- Corrosion Evaluation
- Seismic Data and Recommendations
- As-Built Foundation Data
- Foundation Recommendations
- Slope Stability Analyses
- General Notes to the Designer
- Construction Considerations

In addition to the FR, the Log of Test Borings (LOTB), which presents the description, in graphic and text format, of the soil and rock encountered during the subsurface exploration, is produced for inclusion in contract plans.

Guidance

- [Project Development Procedures Manual \(PDPM\), Chapter 2-70, Section 20, Article 30](#)
- Bridge Design Aids, Sections 10, 11, & 15
- Bridge Design Details, Sections 1, 2, & 3
- Bridge Design Memo to Designers, Sections 1 through 22
- Bridge Design Practice
- Bridge Design Specifications
- Seismic Design Criteria, Section 6
- OSFP Information & Procedures Guide, Chapters 2 through 6
- Pumping Plant Design Manual, Chapters 1 through 9
- Pumping Plant Design Manual, Appendix 8
- Highway Design Manual, Chapter 200, Topic 210
- Code of Safe Drilling Practices
- Guidelines for Structure Foundation Reports
- Soil and Rock Logging, Classification, Description, and Presentation Manual Guidelines for Structure Foundation Reports. Chapter 3
- [Standard Environmental Reference \(SER\)](#)

240.85 Draft Structure Plans

This task includes all efforts required to prepare draft Structures Plans and Quantities (P&Q). The final product is a draft set of designed, detailed and checked structural plans along with checked quantity calculations for identified contract bid items. The activities include, but are not limited to:

- Prepare Unchecked Details (65%)
 - Perform structural analysis and develop draft Design
 - Prepare draft Structure Plan Sheets
 - Perform a Constructability Review (CR) of the Unchecked Details
 - Prepare updated quantities
 - Prepare Unchecked Detail Cost Estimate
 - Prepare Unchecked Detail Item List
 - Prepare Unchecked Detail Working Day Schedule
 - Distributed Unchecked Details package to District, including plan sheets & cost estimate
- Prepare Draft Structures Plans & Quantities (P&Q)
 - Perform an independent structural analysis
 - Check the Design and Plan Sheets
 - Prepare draft Quantities
 - Perform an independent check of the draft Quantities
 - Prepare Memorandum to Specification Engineer/Cost Estimator
 - Update Type Selection Report or Seismic Retrofit Strategy Report
 - Transmit P&Q package to Structure Office Engineer

Guidance

- Standard Plans
- Standard Specifications
- Bridge Design Aids, Sections 1-9, 11, & 13-15
- Bridge Design Details, Sections 1-20
- Bridge Design Memo to Designers, Sections 1- 22
- Bridge Design Practice
- Bridge Design Specifications
- Building Specifications
- MEWW Standard Drawings
- OTA Design Manual
- OTA Standard Drawings
- Pumping Plant Design Manual, Chapters 10-16
- Pumping Plant Design Manual, Appendices 1-6
- Soils and Rock Logging Classification Manual (Field Guide)
- [Project Development Procedures Manual \(PDPM\), Chapter 20, Section 3](#)

240.90 Draft Structures Special Provisions and Cost Estimate

This task includes efforts required to prepare the draft Structures Plans, Specifications, and Estimate (SPS&E). The final product is a 95% complete draft set of Structure Plans, Structure Special Provisions, and Structure Cost Estimate. The activities include, but are not limited to:

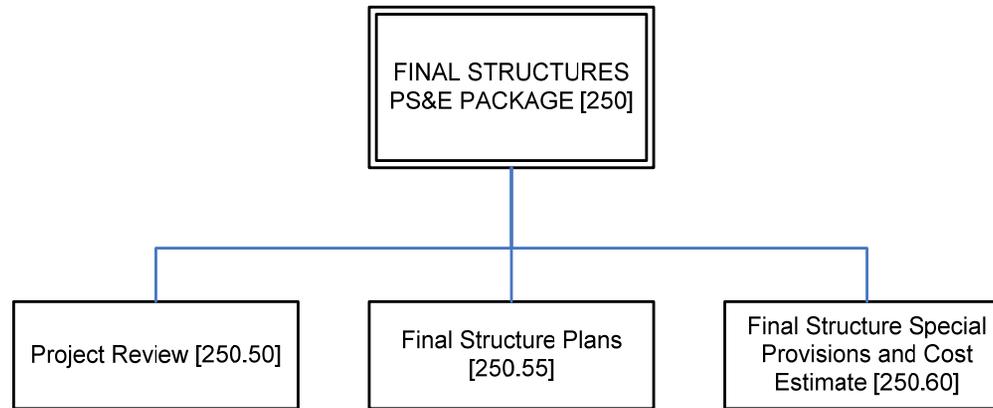
- Review of the Structure Plans and Quantities
- Review Memorandum to Specification Engineer/Cost Estimator
- Update Structure Contract Item list
- Prepare draft special provisions
- Update cost estimate for Structure Contract Items and working day summary

- Transmit draft SPS&E package to District Office Engineer

Guidance

- Standard Plans
- Standard Specifications
- RTL Guide
- Bridge Design Aids, Sections 1-9, 11, & 13-15
- Bridge Design Details, Sections 1-20
- Bridge Design Memo to Designers, Sections 1- 22
- Bridge Design Practice
- Bridge Design Specifications
- Building Specifications
- MEWW Standard Drawings
- OTA Design Manual
- OTA Standard Drawings
- Pumping Plant Design Manual, Chapters 10-16
- Pumping Plant Design Manual, Appendices 1-6
- Soils and Rock Logging Classification Manual (Field Guide)
- [Project Development Procedures Manual \(PDPM\), Chapter 20, Section 3](#)

250 *Final Structures PS&E Package*



250 Final Structures PS&E Package

Work involved in addressing comments on the Draft Structures PS&E and incorporating them into the final Structures PS&E package.

This task includes all efforts involved in the development of the overall final structures PS&E package. Activities under this task are tracked on an overall project basis. Typically, the Structure Project Engineer, Specifications Engineer, Cost Estimates Engineer, and other members of the Division of Engineering Services (DES) project development team do this work. Activities include, but are not limited to:

- Project Review by DES project development team
- Constructability Review Meeting of draft SPS&E package
- Revisions to the Plans, Special Provisions, and Cost Estimates
- Transmittal of final SPS&E package to District Office Engineer, DES Office Engineer, or appropriate agencies for an external review
- Other non-specific activities that are directly related to the development of the final SPS&E package.

Guidance

- Bridge Design Aids, Sections 1-9, 11, & 13-15
- Bridge Design Details, Sections 1-20
- Bridge Design Memo to Designers, Sections 1- 22
- Bridge Design Practice
- Bridge Design Specifications
- RTL Guide
- Building Specifications
- MEWW Standard Drawings
- OTA Design Manual
- OTA Standard Drawings
- Pumping Plant Design Manual, Chapters 10-16
- Pumping Plant Design Manual, Appendices 1-6
- Soils and Rock Logging Classification Manual (Field Guide)

250.50 Project Review

This task includes the final Project review of the draft SPS&E package by applicable members of the DES project development team including, but not limited to: Design Engineer, Specifications Engineer, Geotechnical Engineer, Engineering Geologist, Hydraulic Engineers and the Construction Engineer. Activities include, but are not limited to:

- Review of draft SPS&E package
- Final review of Hydraulic Report, Foundation Report and any other project specific reports
- Final review and updating of the Structure Type Selection Report or the Seismic Retrofit Report
- Constructability Review of all final documents

- Concurrence by DES project development team that recommendations have been properly incorporated into the final SPS&E

250.55 Final Structure Plans

This task includes efforts required to prepare final Structures Plans for incorporation into the final SPS&E package. The activities include, but are not limited to:

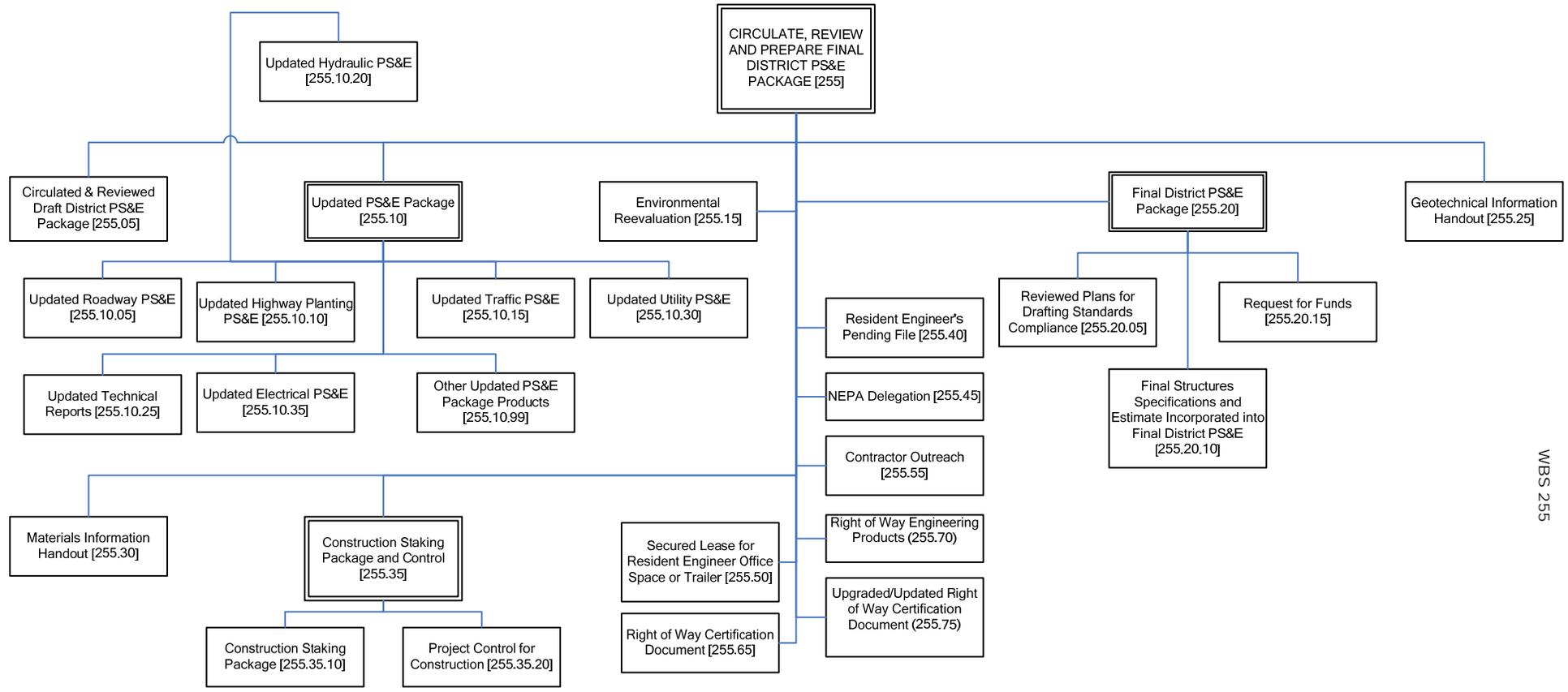
- Update plan sheets based on final Project Review (95% Constructability Review)
- Review and incorporate District and Structure Office Engineer comments into Final Structure Plans and Quantity calculations
- Update Memorandum to Specification Engineer and other items for Resident Engineers Pending File
- Update Type Selection Report or Seismic Retrofit Strategy Report
- Update quantities for contract bid items

250.60 Final Structure Special Provisions and Cost Estimate

This task includes efforts required to prepare the final Structure Special Provisions and Cost Estimate. The activities include, but are not limited to:

- Update specifications based on final Project Review (95% Constructability Review)
- Update Basic Engineering Estimate System (BEES) estimate
- Transmit final SPS&E package to District Office Engineer and/or DES Office Engineer and/or appropriate agencies for an external review

255 Circulate, Review and Prepare Final District PS&E Package



255 Circulate, Review and Prepare Final District PS&E Package

Work involved in the circulation and review of the Draft District PS&E package. Includes addressing review comments and preparing the Final District PS&E package.

255.05 Circulated & Reviewed Draft District PS&E Package

This activity includes reproduction, distribution, coordination, and circulation of the project's plans, specifications and estimate. This activity also includes the review and comment as well as reaching consensus with the reviewers (including the 95% "Constructability Review"). Copies of review package are routed to both in-house functional branches and involved outside agencies.

Guidance

- Plans Preparations Manual, Chapters 1 and 2
- Highway Design Manual (HDM), Chapter 100, Topic 110, Index 110.7 and 110.8
- Ready-to-List and Construction Contract Award Guide (RTL Guide), Sections 5, 6 and 7.
- [Project Development Procedures Manual \(PDPM\), Chapter 14, Section 3, Chapter 8 Section 6](#)

Sub -Tasks

- Review Final Plans for Constructability (95%) and inclusion in package.
- Review Project for Final Permit Needs
- Review Aesthetics
- Review the Final Traffic Management Plan(TMP)
- Review All Specifications and Estimate
- Review Hydrology and Hydraulic design elements and specifications
- Review Geotechnical Design Elements and specifications
- Review Pavement design elements and specifications
- Review Materials design elements and specifications
- Review for Conformity with Environmental Commitments
- Perform Safety Review
- Perform All Other PS&E Reviews

End Product(s)

- Collection and documentation resolution of all comments, so that the draft plans, specifications and estimate can be finalized.
- 95% Constructability Review

255.10 Updated PS&E Package

This activity includes all necessary updates as a result of the draft PS&E circulation or when Headquarters Division of Engineering Services Office Engineer (DES-OE) requires resubmitted of the final PS&E package from the district. This includes delineation support.

End Product(s)

- Updated set of plans, specifications and estimate ready for final process review prior to being transmitted to DES – OE.

255.10.05 Updated Roadway PS&E**255.10.10 Updated Highway Planting PS&E****255.10.15 Updated Traffic PS&E****255.10.20 Updated Hydraulic PS&E****255.10.25 Updated Technical Reports**

Such as Geotechnical Design Report, Hydrology/Hydraulics Report, and Material Report

255.10.30 Updated Utility PS&E**255.10.35 Updated Electrical PS&E****255.10.99 Other Updated PS&E Package Products**

All other work, during the Updated PS&E Package efforts, not defined or covered in other 255.10 elements.

255.15 Environmental Reevaluation

This activity is initiated when there are changes in any factors that might affect the validity of the project's Environmental Document (ED) or Categorical Exemption (CEQA)/Categorical Exclusion (NEPA) (CE) Determination. Pertinent factors include, but are not limited to, changes in the project scope, identification of new issues, and changes in laws or regulations as they apply to the project. Reevaluation is required for Federal nexus projects at each project decision point and three years after completion of the ED or CE. If a supplemental document is required, WBS 165 should be used. In the event that permit renewals or extensions result in new or changed requirements, the Environmental Commitments Record, Mitigation Monitoring and Reporting Record, RE Pending File, and similar documents must also be updated.

Note: FED's are only valid for three years; consequently this activity may be required more than once.

Guidance

- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 12](#)
- [Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 33](#)
- [Project Development Procedures Manual \(PDPM\), Chapter 14, Section 4, Article 2](#)

Sub-Tasks

- Technical studies that may be required to assess the new impacts. This would include but not limited to: biological, archaeological, visual and noise studies.
- Drafting review and approval of the reevaluation.
- Prepare and submit permit renewal and extension requests to resource agencies.

End Product(s)

- An approved Environmental Reevaluation for the final PS&E package or a determination that no Reevaluation is required.

255.20 Final District PS&E Package

This activity includes all the tasks required to complete the process requirements (such as the reproduction, funds request and "Attachment A"/RTL Certification). Also includes District OE effort to ensure the completeness, quality, and consistency of PS&Es submitted to DES - OE for processing. The DOE verifies that the design is complete, bid-able, and build-able.

End Product(s)

- Final District PS&E Package (Submitted to DES - OE)

255.20.05 Reviewed Plans for Drafting Standards Compliance

This includes the delineation effort required to address any review comments.

255.20.10 Final Structures Specifications and Estimate Incorporated into Final District PS&E Guidance

- Plans, Specifications, and Estimates Guide, Sections 2-3
- [Project Development Procedures Manual \(PDPM\), Chapter 14, Section 3, Article 1](#)

255.20.15 Request for Funds

Project Manager prepares funding package.

Guidance

- RTL Guide, Section 9
- Decision Document –Funding Package (Robert Buckley and Brent Felker, 1/15/2003) as referred to in the Ready To List (RTL) Guide Section 9

255.25 Geotechnical Information Handout

This task includes reviewing the Geotechnical Design Report (GDR), Foundation Report (FR), geophysical data, geotechnical instrumentation data, laboratory test data and rock core and soil samples available for viewing that were prepared earlier during the design phase and selecting the necessary sections and information to be included in the Geotechnical Information Handout. The GDR and FR include information such as existing physical setting, geophysical studies, geotechnical conditions, geotechnical analysis and design, construction considerations, and recommendations and specifications.”

Guidance

- RTL Guide, Section 10.8, 10.8.2, 10.8.5

End Product(s)

- Complete the Geotechnical Information Handout, and make it available for the prospective bidders to review.

255.30 Materials Information Handout

The Materials Information Handout (MIH) is prepared for the use of prospective bidders. The handout includes test data on local materials sources; soil survey sheets showing borings, tests, and seismic information (if required). It also includes a statement that the non-commercial borrow, disposal, or material sites conform with regulations and environmental laws.

Guidance

- Highway Design Manual (HDM), Chapter 100, Topic 111, Index 111.3
- RTL Guide, Sections 10.8, 10.8.4 and 10.8.7

Sub-Tasks

- Transmit project strip map and proposed typical cross sections to the Materials Unit requesting available materials information for the project.
- Request the Materials Unit to prepare a Materials Information Handout.
- Material Unit prepares MIH and sends to Project Engineer.

End Product(s)

- Complete the Material Information Handout, and make it available for the prospective bidders to review.

255.35 Construction Staking Package and Control

Develop the Construction Staking Notes Package (CSNP) required by surveys field crews and ensure that adequate project control exists to complete all required construction staking.

Note: Completion of this work element is not tied to Milestone 380 (Project PS&E). Work on this element can continue after the PS&E package has been received by DES OE.

End Product(s)

- Construction Staking Notes
- Construction Staking Electronic Data File
- Project Control viable for construction staking

255.35.10 Construction Staking Package

Develop the Construction Staking Notes package required by surveys field crews to complete all required construction staking. Notes and Files will contain all information required by field survey crews to stake project for construction.

Business Practice:

- Work for WBS 255.35.10 products may be performed in part under WBS 270.10.10. Creation of the CSNP should be started and substantially completed during the project 1 phase under WBS 255.35.10. Completion and revision to the CSNP can be completed under WBS 255.35.10 and charged to the 1 phase or under WBS 270.10.10 and charged to the 3 phase. Determination of which WBS element and phase is charged after the project 3 phase is opened is determined by district charging practices. Headquarters Office of Land Surveys has no opinion or preference.

Products

- Electronic Alignments for
- Structures
- Roadway and Drainage
- Slope Stake/Finish Grade hard copies
- Drainage/Structure detail sketches

Note: This task does not include performance of any Civil Engineering duties as listed in the California Business and Professions Code, Section 6731 by Survey staff.

255.35.20 Project Control for Construction

Tasks include locating, verifying, and supplementing project control as necessary to ensure that control is viable for construction staking. Includes all work required to enable control to be used for any type of staking / construction methods.

Business Practice:

- All control necessary for construction staking should be ready for use at the beginning of the project construction phase. Exception to this practice is when it is expected that a control point would be disturbed during construction prior to its required use.

Quality

- Refer to Caltrans Surveys Manual, Chapters 5 and 9, and Figure 5.1

Products

- Sufficient control to stake project during construction.

255.40 Resident Engineer's Pending File

Work involved in preparing the District RE Pending File/Structures R.E. Pending File. Includes preparation of an Environmental Commitments Record (or similar document), weigh-in-motion and PrePass™ commitments, contacts with construction to transmit the file and determine what additional information may be required. Also includes preparing and forwarding additional information (such as cross sections/as-builts/slope staking notes/grid grades/structures 4-scales) as requested by construction. In terms of the environmental component of the RE Pending file, the input is a “snapshot” of the Environmental Commitments Record (ECR), or similar document (e.g., Mitigation Monitoring and Reporting Record). The ECR (or similar) also serves as the basis for determining Environmental Certification at RTL (WBS 260.15.15). Any changes in PS&E after District submittal to HQOE will require coordination with the District Environmental Branch Chief to make any necessary updates to the ECR, RE Pending, and Environmental Certification at RTL.

Note: Completion of this work element is not tied to milestone 380 (Project PS&E). Work on this element can continue after the PS&E package has been received by DES OE.

Guidance

- [Project Development Procedures Manual \(PDPM\), Chapter 15, Section 2 and Appendix GG](#)

End Product(s)

- District RE Pending File and Structures R.E. Pending File forwarded to construction/surveys.
- Verify contract special provisions cover all items of work and other contract terms in accordance with and/or FHWA standards and applicable laws and regulations.
- Verify Engineer’s Estimate is consistent with the plans and special provisions and that there is a method of payment for all contract work either by contract item or some other means (e.g. included in other items of work, extra work, etc.)
- Develop a punch list of non-conforming and unresolved issues and forward to District/Structures for resolution.

255.45 NEPA Delegation

Includes all WBS 255 (Final District PS&E Package) work previously performed by FHWA, but which is now the Department’s responsibility as a result of full NEPA delegation from FHWA under SAFETEA-LU.

Guidance

- [Standard Environmental Reference](#)
- [FHWA California Division Home Page](#)

255.50 Secured Lease for Resident Engineer Office Space or Trailer

All efforts required to secure the RE Office lease to be ready for construction contract efforts.

Guidance

- Construction Manual, Chapter 1- 4.02
- Prevailing State Wage Rates

255.55 Contractor Outreach

All efforts required when soliciting more contractors to bid this construction contract prior to bid advertisement. Includes meetings and presentations to potential bidders to familiarize them on the scope, issues and benefits of the project in an effort to increase the number of bids received.

255.65 Right of Way Certification Document

Includes all work to prepare the Right of Way Certification Document.

Guidance

- Right of Way Manual - Forms and Exhibits
- Right of Way Manual - Reference Version
- Plans, Specifications, and Estimates Guide, Section 2-3.02A
- [Project Development Procedures Manual \(PDPM\), Chapter 14, Section 1, Article 4](#)

Sub-Tasks

- Request Clearance Letters Transmittal

End Product(s)

- Right of Way Certification Document

255.70 Right of Way Engineering Products

Creation of Deeds and supporting Right of Way Engineering documents for projects with no declared Right of Way Requirements.

Quality

- Maps produced must meet all requirements as set forth in the Caltrans Plans Preparation Manual, Chapter 4, the Caltrans CADD Manual Section 2.4.E (all), and the Caltrans Right of Way Manual, Chapter 6. Document preparation will be performed in accordance with accepted professional land surveying practices and applicable laws.

End Product(s)

- Refer to Caltrans Plans Preparation Manual, Chapter 4, Caltrans CADD Manual Section 2.4.E (all), the Caltrans Right of Way Manual, Chapters 6 and 13. Products include but are not limited to:
- Exchange Transactions
- Corrector Deeds
- Utility Agreements (including JUA and CCUA)

255.75 Upgraded/Updated Right of Way Certification Document

Includes all work to prepare an upgraded Right of Way Certification Document from level 3 or 3W to level 1, 2, 3W or an updated Right of Way Certification Document.

Guidance

- Right of Way Manual - Forms and Exhibits
- Right of Way Manual - Reference Version
- Plans, Specifications, and Estimates Guide, Section 2-3.02A
- [Project Development Procedures Manual \(PDPM\), Chapter 14, Section 1, Article 4](#)

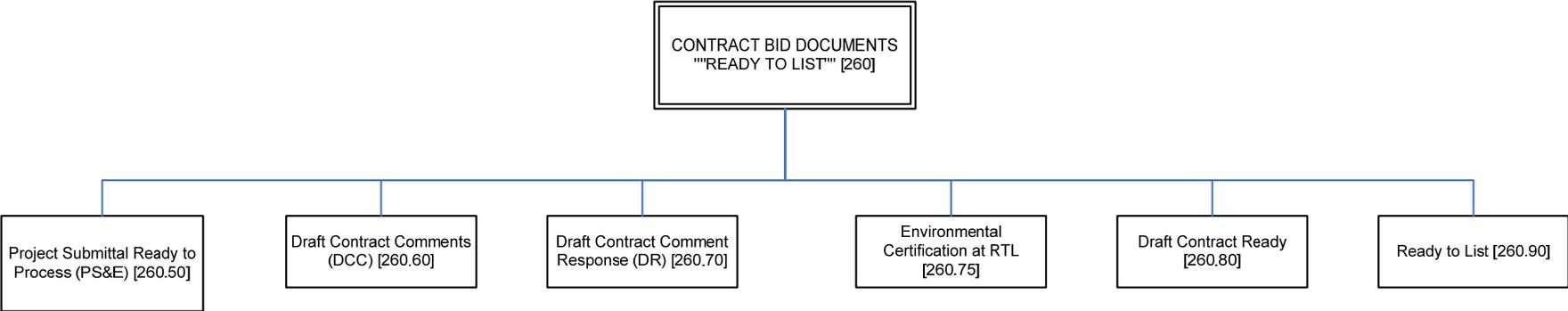
Sub-Tasks

- Request Clearance Letters Transmittal

End Product(s)

- Upgraded or Updated Right of Way Certification Document

260 Contract Bid Documents "Ready to List"



260 Contract Bid Documents “Ready to List”

Work involved in the preparation of draft contract bid documents. Completion of this activity is the milestone "Ready to List" as defined in the RTL Guide

260.50 Project Submittal Ready to Process (PS&E)

The product from this activity is a complete project submittal from the district to DES-OE ready for processing. Activities include receiving the project submittal from the district, validating submittal requirements are complete, coordinating with district staff for missing items, logging the submittal into a database, plotting check prints, distributing submittal documents to DES-OE staff, and notifying staff that the submittal is ready to be processed.

Guidance

- CADD Users Manual
- Ready-to-List and Construction Contract Award Guide (RTL Guide), Section 5.3, Figure 5-1
- RTL Guide Section 10

Sub-Tasks

- Validate project submittal is complete
- Log complete submittal into database
- Distribute documents to and notifying DES-OE staff
- Log plans in
- Print plan sets
- Evaluate plans for conformance to drafting standards
- Distribute check prints to Plans Bin

End Product(s)

- Complete project submittal ready to process.

260.60 Draft Contract Comments (DCC)

The products from this activity are established contract standards and a list of potential violations of those standards. Activities include maintaining construction contract standards (Standard Plans, Standard Specifications, Standard Special Provisions, and Legal and Cost Avoidance contract quality standards) and developing a list of potential violations of those standards.

Guidance

- RTL Guide
- Plans Preparation Manual
- Standard Specifications, Standard Plans, Standard Special Provisions
- Legal and Cost Avoidance Construction Quality Standards
- Specifications Style Guide

Sub-Tasks

- Develop and maintain construction contract standards (Standard Plans, Standard Specification Standard Special Provision, and Item Codes).

- Develop and maintain contract quality standards (Legal and Cost Avoidance standards, RTL Requirements.)
- Assign project
- Create job file containing all the PS&E submittal and correspondence
- Quickly validate that PS&E submittal is complete
 - Cover memorandum is correct and complete
 - Draft RTL Cert is correct and complete
 - Plans and estimate spot check for completeness
- Submit Electrical and Landscape specialty portions to specialty group.
- Verify the combined Basic Engineering Estimate System (BEES) are accurate and complete.
 - All contract pay items in BEES specified in Standard Special Provisions (SSPs) and as shown on plans
 - Item description and units of measure agree with Standard Specifications, SSPs, and plans
 - Specialty items are marked (S) and final pay items are marked (F)
 - Unit prices reasonable and rounded correctly
 - State Furnished Materials listed and matches the SSP. Estimates are included.
 - Supplemental Work items are within allowable limits or approval is obtained.
- Verify the project plans are accurate and complete.
 - All items of work are shown on the plans, specified in the SSPs and match pay items in BEES.
 - Title sheet complete and accurate.
 - Standard Plans List is complete and accurate.
- Verify the specifications are accurate and complete.
 - All necessary engineering seals provided, signed and dated.
 - All SSPs have necessary measurement and payment clauses.
 - SSPs specify, directly or indirectly, all work to be done in plans and each contract pay item in BEES.
 - Specifications are updated to current SSP in the HQOE Fileserver.
 - SSP editing instructions are followed.
 - Liquidated Damages are calculated correctly.
- Develop a list of non-conforming and unresolved issues and transmit to District and DES Office of Structure Design for resolution.

End Product(s)

- Draft contract comments (a list of non-conforming and unresolved issues and transmitted to District and DES Office of Structure Design for resolution.)

260.70 Draft Contract Comment Response (DR)

The product from this activity is a resolution to the list of non-conforming legal, cost effective standards identified in activity 260.60 Draft Contract Comments. The activity includes revising plans, specifications and estimate according to responses to draft contract comments or resolving and documenting why suggested changes were not incorporated.

Guidance

- RTL Guide, Legal, Cost Effective Standards.

Sub-Tasks

- Verify that non-conforming legal, cost effective standards were addressed.
- Verify that all requested information has been received including all executed permits that affect the contract.

- Verify that revisions are in accordance with Caltrans and/or FHWA standards and applicable laws and regulations.
- Verify that revisions are not in conflict with other portions of the PS&E.
- Verify FHWA comments have been appropriately addressed.
- Resolve compliance issues if requested changes not made.

End Product(s)

- Resolution of Draft Contract Comments

260.75 Environmental Certification at RTL

This activity includes all environmental work necessary to review the PS&E and for the Environmental Branch Chief, or designee, to complete the Environmental Certification.

Note: This Certification is based on a “snapshot” of the Environmental Commitments Record (ECR), or similar document (e.g., Mitigation Monitoring and Reporting Record), which is also used to provide Environmental input for WBS 255.40 (Prepare Resident Engineer’s File). Changes in PS&E after District submittal to DES-OE should be coordinated with the District Environmental Branch Chief in order to make any necessary updates to the ECR, RE Pending, and Environmental Certification at RTL.

Guidance

- RTL Guide, Legal, Cost Effective Standards.

End Product(s)

- Environmental Certification

260.80 Draft Contract Ready

The product of this activity is a draft contract ready for advertisement once RTL requirements are completed and funding is available. Activities include finalizing the plans, specifications and estimate, providing contract quality feedback and final PS&E changes for district review.

Sub-Tasks

- Incorporate revisions into draft contract
- Provide revisions for district review
- Issue DCR memo
- Provide quality feedback
- Finalize BEES item coding

End Product(s)

- Draft Contract

260.90 Ready to List (RTL)

The product from this activity is a draft contract, ready to list for advertisement and ready to begin final preparation of bid books (if funds are available to cover construction and construction windows allow). The activity includes validating that all RTL requirements have been met.

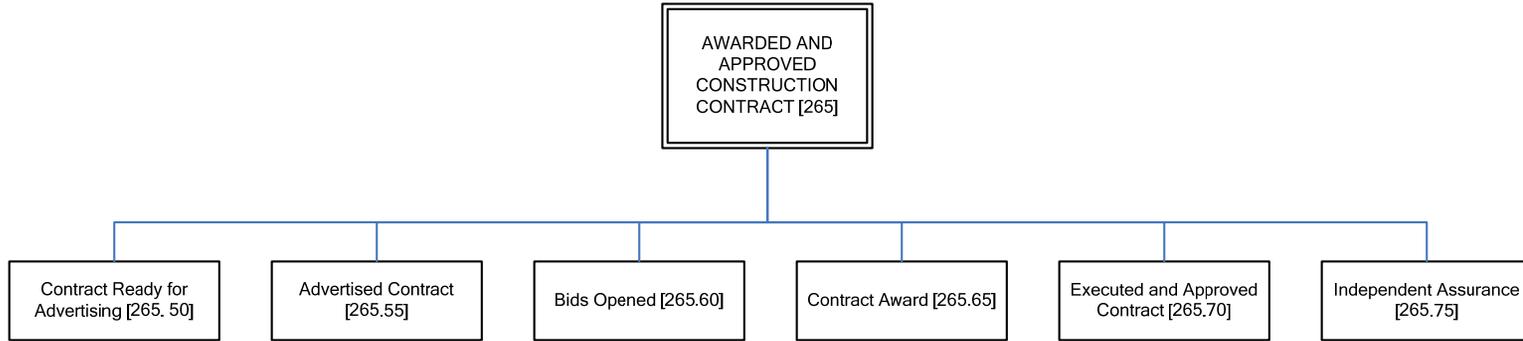
Sub-Tasks

- Notify district staff of outstanding RTL requirements.
- Validate completion of RTL Requirements.
- Obtain signatures and seal on RTL Certification.

End Product(s)

- Final RTL Certification

265 *Awarded and Approved Construction Contract*



265 Awarded and Approved Construction Contract

Work involved in the advertisement, bid opening, award, and approval of a construction contract

265.50 Contract Ready for Advertising

The product of this activity is contract bid documents ready for advertising. Work includes setting Disadvantage Veterans Business Enterprise (DVBE) goals, preparation and reproduction of bid documents, validating funds, securing federal funds approval, approving authority to advertise, setting advertising and bid opening dates, listing in the State Contracts Register, and posting advertisements on the Internet.

Guidance

- Civil Rights Program (Goals),
- Construction Manual, Chapter 9, Section 9-03, Page 9-03-1
- FHWA Title 49 Federal Regulations, Part 23, Pages 222-263
- Public Contract Code, Sections 10115-10115.10, 14838-14838.6, & 999-999.9
- Streets and Highways Code, Sections 94.3, & 94.4
- RTL Guide

Sub-Tasks

- Validate funding is available in an amount equal to or greater than the construction estimate.
- Prepare list of projects tentatively proposed for advertisement
- Distribute the above list to other units and obtain input and concurrence
- Finalize advertisement list and set advertising and bid opening dates
- Post list on Internet
- Set and distribute target dates to be met by various units in preparing projects for advertisement
- Compare the items of work and materials that can be subcontracted to available DVBE firms in the vicinity of the project and develop match list
- Determine items of work and materials that will most likely be performed by the prime contractor
- Estimate the percentage of work available that DVBE can perform
- Recommend project participation goals to Civil Rights for approval
- Update Special Provisions
- Finalize boilerplate information
- Generate and incorporate electronic Engineer's Estimate
- Merge project data
- Incorporate contract boilerplate
- Scan and incorporate Engineer's seals
- Format for reproduction
- Reproduce contract books
- Maintain Office of Engineer (OE) Database of project inventory through login and logout records

- Import electronic plan files
- Include Revised and New Standard Plans
- Provide the Index of Sheets, Plans Approval Date and Federal Aid Contract Number
- Number plan sheets
- Check final drafted changes prior to final printing
- Plot final electronic files
- Send to Reprographics
- Reproduce Contract Plans
- Receive job file from Spec Engineer
- Print project ticket/tentative list for specific advertising date
- Verify funding source(s)
- Compare authorized funding amount to estimate total
- Complete Authority to Advertise form
- Obtain signature
- Distribute signed Authority to Advertise form
- Enter authorized amount into Phase 4 of Project
- Obtain contributor number
- Prepare and post notice in Department of General Services (DGS) contract registry

End Product(s)

- Contract ready for advertisement.

265.55 Advertised Contract

This activity begins with the advertisement of the contract documents, which consists of distributing bid documents, preparing and issuing addenda. The product of this activity is an advertised contract and addenda ready for bid opening.

Guidance

- Construction Manual, Chapter 2, Section 2-02, Page 2-02-1 & Section 2-03, Page 2-03-1 & 2-03-2
- RTL Guide
- Standard Specifications, Section 2, Pages 2-1 through 2-6

Sub-Tasks

- Distribute bid documents
- Respond to bidder's inquiries
- Post responses on District/OE websites
- Develop addenda (develop revised contract special provisions, Engineer's Estimate and red line plan sheet corrections). This includes both district and Division of Engineering Services (DES) efforts
- Complete red-lined plan sheet corrections for addendum
- Reproduce and publish addendum
- Distribute addendum to all bidders, non-bidders, Districts, Functional Programs, Federal Highway Administration (FHWA) and other involved parties. DES Structure design sections or all those who "sealed" plans need to be included in distribution list
- Verify receipt of addenda by all bidders
- Include addenda in undistributed contract documents
- Perform red-lined Basic Engineering Estimating System (BEES) corrections

- Update Project Database to reflect changes (e.g., items, working days, call out, etc.)
- Maintain plan holder lists

End Product(s)

Distributed bid documents and addenda.

265.60 Bids Opened

The product of this activity is bids opened. This activity includes all work associated with opening, publicly reading, recording and verifying bids on construction contracts, as well as disseminating bid results to the Department and the public.

Guidance

- Construction Manual, Chapter 2, Section 2-02, Page 2-02-1 & Section 2-03, Page 2-03-1 & 2-03-2
- RTL Guide
- Standard Specifications, Section 2, Pages 2-1 through 2-6

Sub-Tasks

- Receive bids
- Opening bids at public bid opening, recording bid results and cursory check for responsiveness and completeness of bid
- Reading and recording of bids
- Entry of bid data into Bid Opening System to verify each bid and to store bid data on computer
- Perform license check
- Confirm small business certification
- Apply small business preference
- Produce bid summary information and distribute to bidders and Districts
- Recommend rejections of all bids if necessary.
- Bid rejection

End Product(s)

- Bids opened, verified, ranked and information disseminated.

265.65 Contract Award

The product of this activity is an awarded contract. This activity includes contract award-related work and includes validating bidder responsiveness and responsibility.

Guidance

- Construction Manual, Section 2-03
- Construction Manual, Chapter 2, Section 2-03, Pages 2-03-1 & 2-03-2
- RTL Guide
- Project Development Procedures Manual (PDPM), Chapter 15, Section 1
- Public Contract Code, Sections 3300, 6100-9202, & 10180-10285.5
- Standard Specifications, Section 3, Pages 3-1 & 3-2
- Construction Manual, Chapter 9, Section 9-03, Page 9-03-1
- FHWA Title 49 Federal Regulations, Part 23, Pages 222-263
- Public Contract Code, Sections 10115-10115.10, 14838-14838.6, & 999-999.9
- Streets and Highways Code, Sections 94.3 & 94.4

Sub-Tasks

- Determine bidder responsibility
- Perform funding analysis
- Receive contractor Disabled Veterans Business Enterprise (DVBE)/Disadvantage Business Enterprise (DBE) submittals and forward to BEP for evaluation
- Notify contractor when the Department's Business Enterprise Program (BEP) has determined that a good faith effort was not made and arrange reconsideration/appeal meetings for "no good faith efforts"
- Chair Department's Good Faith Effort Reconsideration Committee and provide staff to the Committee
- Prepare Reconsideration Committee findings for signature
- Respond to bid protests
- Analyze relief of bid requests and prepare findings for Relief of Bid Committee
- Analyze requests for subcontractor substitution
- Prepare pre-award qualification reports for committee
- Notify bidder of determination
- Verify that contractor is not debarred or suspended
- Perform license verification
- Confirm bid bond from California Bidded Surety
- Conduct responsibility hearings and notify bidder of determination
- Obtain Project Phase 4 certification
- Process G-11 or G-12
- Award contract
- Assemble award package
- Assemble contract documents
- Obtain contract award signature
- Mail to contractor
- Distribute award information to district

End Product(s)

- Awarded contract

265.70 Executed and Approved Contract

The product of this activity is an approved contract ready for construction. This activity includes work associated with the execution of awarded contracts and the approval of those contracts.

Guidance

- Construction Manual, Section 2-03
- Construction Manual, Chapter 2, Section 2-03, Pages 2-03-2
- [Project Development Procedures Manual \(PDPM\), Chapter 15, Section 1](#)
- Public Contract Code, Section 10220
- Standard Specifications, Section 3, Pages 3-1 & 3-2

Sub-Tasks

- Contractor signs contract
- Contractor provides Payment and Performance Bonds
- Contractor returns contract
- Process forfeiture of bid bond if contractor fails to execute
- Verify Surety of payment and performance bonds

- Office Engineer signs contract for the Director
- Legal signs contract for Attorney General
- Mail contract to contractor and Division of Construction
- Make copy of contract and mail to the district

End Product(s)

- Approved Contract

265.75 Independent Assurance (IA)

The product of this activity is an Independent Assurance report and continuous improvement process reviews and training. This activity includes work to independently assure that legal, cost effective contract standards are met.

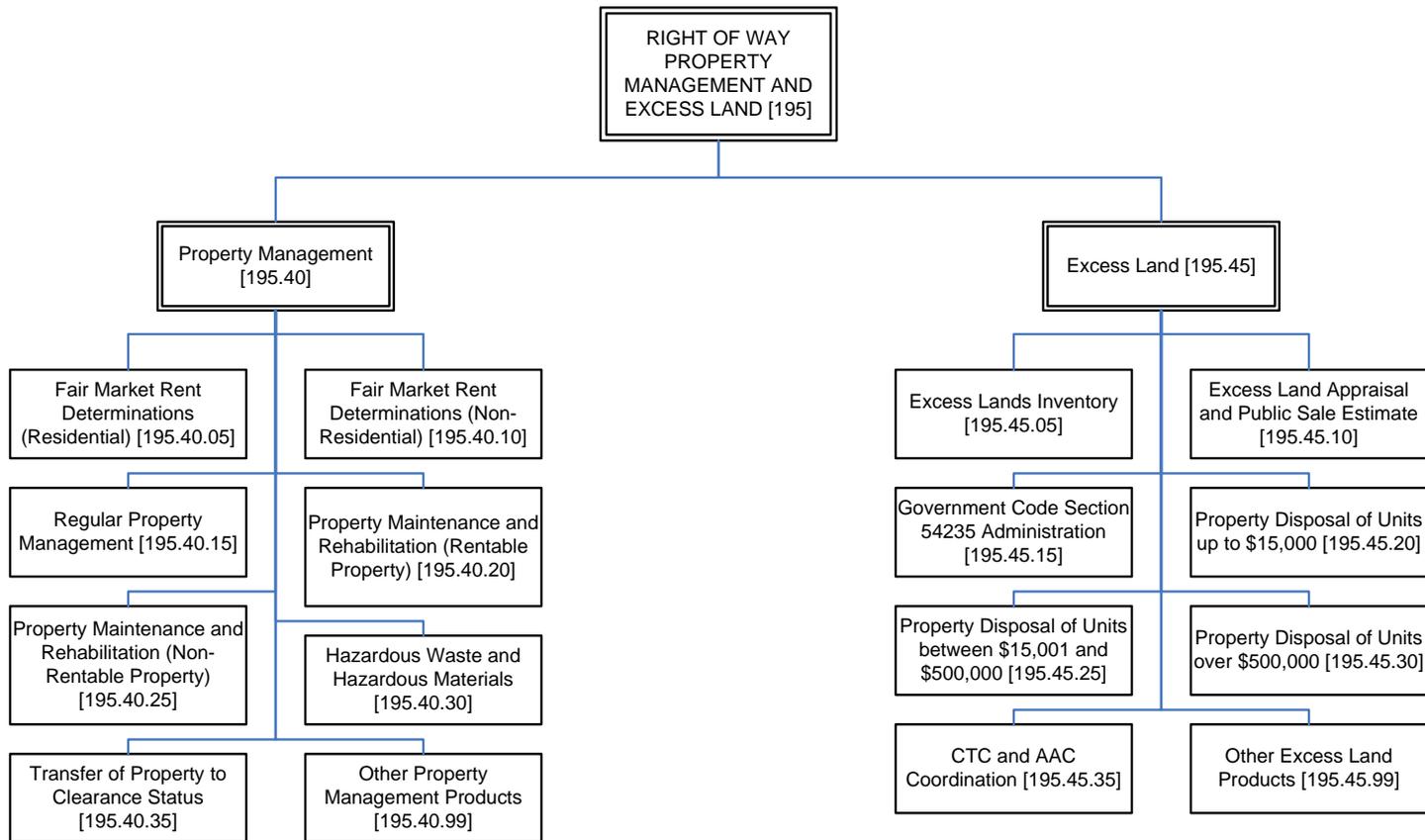
Sub-Tasks

- Validate conformance to Legal, Cost Effective Standards
- Issue project quality report
- Issue Performance reports
- Provide process reviews, training and recommendations.

End Product(s)

- IA Performance Measurement reports, training and quality improvement recommendations

195 Right of Way Property Management and Excess Land



195 Right of Way Property Management and Excess Land

Work involved in managing all property held for transportation projects, and all excess properties.

195.40 Property Management

Property Management units manage all property held for future transportation projects, and all excess properties. Work includes maintaining an inventory of state-owned properties, inspecting properties for loss prevention, marketing rentable properties, establishing tenancies, collecting rents, inputting information in the Property Management Property System (RWPS), maintaining and rehabilitating properties, terminating tenancies, monitoring and coordinating properties for hazardous waste cleanup, and final preparation of the properties to clearance and demolition or excess land sales.

End Product(s)

- Transference of property to clearance status

195.40.05 Fair Market Rent Determinations (Residential)

All work involved in preparation of fair market rent determinations of residential parcels.

Guidance

- Right of Way Manual - Forms and Exhibits, Chapter 11
- Right of Way Manual - Reference Version, Chapter 11
- [Project Development Procedures Manual \(PDPM\), Chapter 3, Section 5](#)

195.40.10 Fair Market Rent Determinations (Non-Residential)

All work involved in preparation of fair market rent determinations of nonresidential parcels.

Guidance

- Right of Way Manual - Forms and Exhibits, Chapter 11
- Right of Way Manual - Reference Version, Chapter 11
- [Project Development Procedures Manual \(PDPM\), Chapter 3, Section 5](#)

195.40.15 Regular Property Management

All work involved in directly managing and reviewing rentable and non-rentable properties,

including maintaining the RWPS.

Guidance

- Right of Way Manual - Forms and Exhibits, Chapter 11
- Right of Way Manual - Reference Version, Chapter 11
- [Project Development Procedures Manual \(PDPM\), Chapter 3, Section 5](#)

195.40.20 Property Maintenance and Rehabilitation (Rentable Property)

All work involved in preparing and administering property maintenance contracts, preparing and assigning repair orders, inspecting work, record keeping and other administrative activities associated with property maintenance and rehabilitation.

Guidance

- Right of Way Manual - Forms and Exhibits, Chapter 11
- Right of Way Manual - Reference Version, Chapter 11
- [Project Development Procedures Manual \(PDPM\), Chapter 3, Section 5](#)

195.40.25 Property Maintenance and Rehabilitation (Non-Rentable Property)

All work involved in preparing and administering property maintenance contracts of unrentable non-operating right of way. This is usually right of way that has been acquired for construction projects that have not yet been awarded or pieces of excess land. Major work items consist of mowing, debris removal, weed abatement, boarding up permanently vacated structures, correcting hazardous conditions, etc.

Guidance

- Right of Way Manual - Forms and Exhibits, Chapter 11
- Right of Way Manual - Reference Version, Chapter 11
- [Project Development Procedures Manual \(PDPM\), Chapter 3, Section 5](#)

195.40.30 Hazardous Waste and Hazardous Materials

Monitoring state-owned properties for potential hazardous waste and hazardous materials. Includes coordinating with the District Hazardous Material Coordinator and tenants for cleanup.

Guidance

- Right of Way Manual - Forms and Exhibits, Chapter 11
- Right of Way Manual - Reference Version, Chapter 11
- [Project Development Procedures Manual \(PDPM\), Chapter 18, All Sections](#)

195.40.35 Transfer of Property to Clearance Status

Preparing the property to be transferred to clearance status, including vacating tenants, terminating utility services (disconnects/removals) and boarding up improvements.

Guidance

- Right of Way Manual - Forms and Exhibits, Chapter 11
- Right of Way Manual - Reference Version, Chapter 11
- [Project Development Procedures Manual \(PDPM\), Chapter 14, Section 3, Article 3](#)

195.40.99 Other Property Management Products

All other work, during the Property Management efforts, not defined or covered in other 195.40 elements.

195.45 Excess Land

Includes all work required for administering project specific inventory and disposition of State-owned real property that is no longer required for rights of way or other operational purposes. Includes all efforts for appraisal of excess land, and environmental compliance efforts required as a part of disposal approval.

End Product(s)

- Sale or Disposal of excess land.

195.45.05 Excess Lands Inventory

All efforts required maintaining the excess land inventory. This includes all activities related to disposal units in hold categories or in foreclosure. Activities include processing releases of parcels into inventory through design changes; route recessions or parcel splits; all clearances required to make the property available for sale including completing environmental compliance requirements; obtaining approval from the Property Retention Committee to place disposal units in a hold category; and all time spent updating the ELMS and completing forms.

Guidance

- Right of Way Manual – Forms and Exhibits, Chapter 16
- Right of Way Manual - Reference Version, Chapter 16
- [Project Development Procedures Manual \(PDPM\), Chapter 26, All Sections](#)
- [Standard Environmental Reference \(SER\)](#)

195.45.10 Excess Land Appraisal and Public Sale Estimate

All work involved in appraising or estimating real property for excess land disposal.

Guidance

- Right of Way Manual – Forms and Exhibits, Chapter 16
- Right of Way Manual - Reference Version, Chapter 16
- [Project Development Procedures Manual \(PDPM\), Chapter 26, All Sections](#)

195.45.15 Government Code Section 54235 Administration

Related to GC Sections 54235, et seq. (Roberti Bill SB86). This includes monitoring activities, but does not include sales activities. Sales efforts should be charged to 195.45.20, 195.45.25, or 195.45.30, depending on the value of the disposal unit.

Guidance

- Right of Way Manual - Forms and Exhibits, Chapter 16
- Right of Way Manual - Reference Version, Chapter 16
- [Project Development Procedures Manual \(PDPM\), Chapter 26, All Sections](#)

195.45.20 Property Disposal of Units up to \$15,000

All activities to sell or otherwise dispose of a disposal unit up to \$15,000 for which all clearances have been obtained and which is now available to sell. Activities include ordering and reviewing deeds, maps and appraisals; negotiating with property owners; advertising property and conducting public sales; disposing through transfer of control and possession, exchange, utility agreement or cooperative agreement; incorporating excess into right of way or operating property; processing CTC agenda or delegated sales and recording deeds; making presentations to the CTC on excess land issues; completing associated environmental compliance requirement; and processing credit sales and all collections efforts, including foreclosure and disposition of property subsequently returned.

Guidance

- Right of Way Manual - Forms and Exhibits, Chapter 16
- Right of Way Manual - Reference Version, Chapter 16
- [Project Development Procedures Manual \(PDPM\), Chapter 26, All Sections](#)

- [Standard Environmental Reference \(SER\)](#)

195.45.25 Property Disposal of Units between \$15,001 and \$500,000

All activities to sell or otherwise dispose of a disposal unit from \$15,001 to \$500,000 for which all clearances have been obtained and which is now available to sell. Activities included are shown in WBS 195.45.20.

Guidance

- Right of Way Manual - Forms and Exhibits, Chapter 16
- Right of Way Manual - Reference Version, Chapter 16
- [Project Development Procedures Manual \(PDPM\), Chapter 26, All Sections](#)
- [Standard Environmental Reference \(SER\)](#)

195.45.30 Property Disposal of Units over \$500,000

All activities to sell or otherwise dispose of a disposal unit over \$500,000 for which all clearances have been obtained and which is now available to sell. Activities included are shown in WBS 195.45.20.

Guidance

- Right of Way Manual - Forms and Exhibits, Chapter 16
- Right of Way Manual - Reference Version, Chapter 16
- [Project Development Procedures Manual \(PDPM\), Chapter 26, All Sections](#)
- [Standard Environmental Reference \(SER\)](#)

195.45.35 CTC and AAC Coordination

Activities necessary to make presentations to the California Transportation Commission (CTC) and the Airspace Advisory Committee (AAC) on excess land issues. This includes preparation time and any additional work done at the specific request of the CTC or AAC. This does not include time spent preparing appraisals, resume packages or other transmittals that regularly go to the CTC for approval.

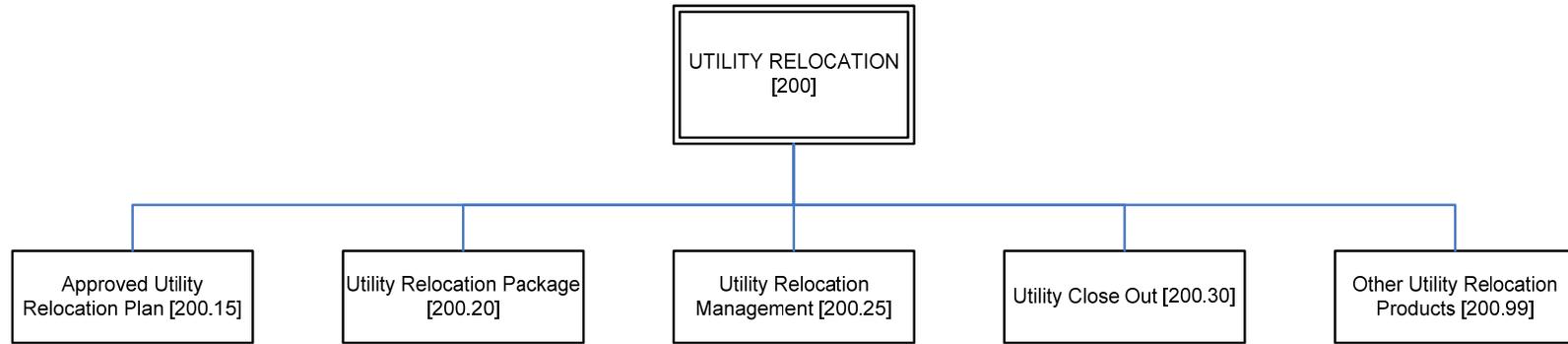
Guidance

- Right of Way Manual - Forms and Exhibits, Chapter 16
- Right of Way Manual - Reference Version, Chapter 16
- [Project Development Procedures Manual \(PDPM\), Chapter 26, All Sections](#)

195.45.99 Other Excess Land Products

All other work, during the Excess Land efforts, not defined or covered in other 195.45 elements.

200 Utility Relocation



200 Utility Relocation

All work involved in the protection, removal and/or relocation of utility facilities necessary to clear and certify Right of Way. Includes coordination with utility companies, review of utility plans, establishing liability, FHWA Authorization and processing payments per Utility Agreements. State's development of plans on behalf of a Utility Owner as part of a relocation agreement will be performed as part of activity 230, "Prepare Draft PS&E".

Note: State's effort in support of administering the physical relocation (construction) of impacted utilities will be included as part of WBS activities 270.30 or 200.25. This effort will be planned/scheduled within activity 270, ONLY if the relocation is made part of the project's construction contract (item work or CCO work).

200.15 Approved Utility Relocation Plan

Review and approve utility relocation plans from utility company. This includes determining and obtaining utility encroachment exceptions, obtaining exceptions to high-low risk policy, and includes transmittal of needs to project development and right of way.

Guidance

- Project Development Procedures Manual (PDPM), Chapter 3, Section 13; Chapter 8, Section 7; Chapter 14, Sections 1 & 2

200.20 Utility Relocation Package

Work includes Preparing and approving Liability/FHWA Authorization Package and notifying utility owners of relocation requirements. Obtaining Relocation Plans from Utility Companies determining liability, preparing Utility Agreements, and obtaining funds, Notice to Owner, and Report of Investigation (ROI). Also includes transmitting Notice/Agreement/Permit to utility owner.

Guidance

- Right of Way Manual - Forms and Exhibits, Chapter 13
- Right of Way Manual - Reference Version, Chapter 13
- [Project Development Procedures Manual \(PDPM\), Chapter 12, All Sections](#)
- Local Assistance Procedures Manual - Chapter 14

200.25 Utility Relocation Management

This activity involves all work related to administering the physical utility relocation work prior to, during, or after the construction of the project pursuant to a Notice to Owner to relocate and includes determining the construction schedule for utility relocation.

Guidance

- Right of Way Manual - Chapter 13

Sub-Tasks

- Administer/inspect relocation work includes pre-construction meetings, coordination with utility owner, monitoring, and discovered work.

End Product(s)

- Utility relocation completed.

200.30 Utility Close Out

Preparation and Processing of Invoices and billings, etc., processing property rights such as Director's Easement Deeds, Utility Joint Use Agreement (JUA) and Consent to Common Use Agreement (CCUA)/Conveyance document packages; requesting utility post audits, and file close outs (updating databases, etc).

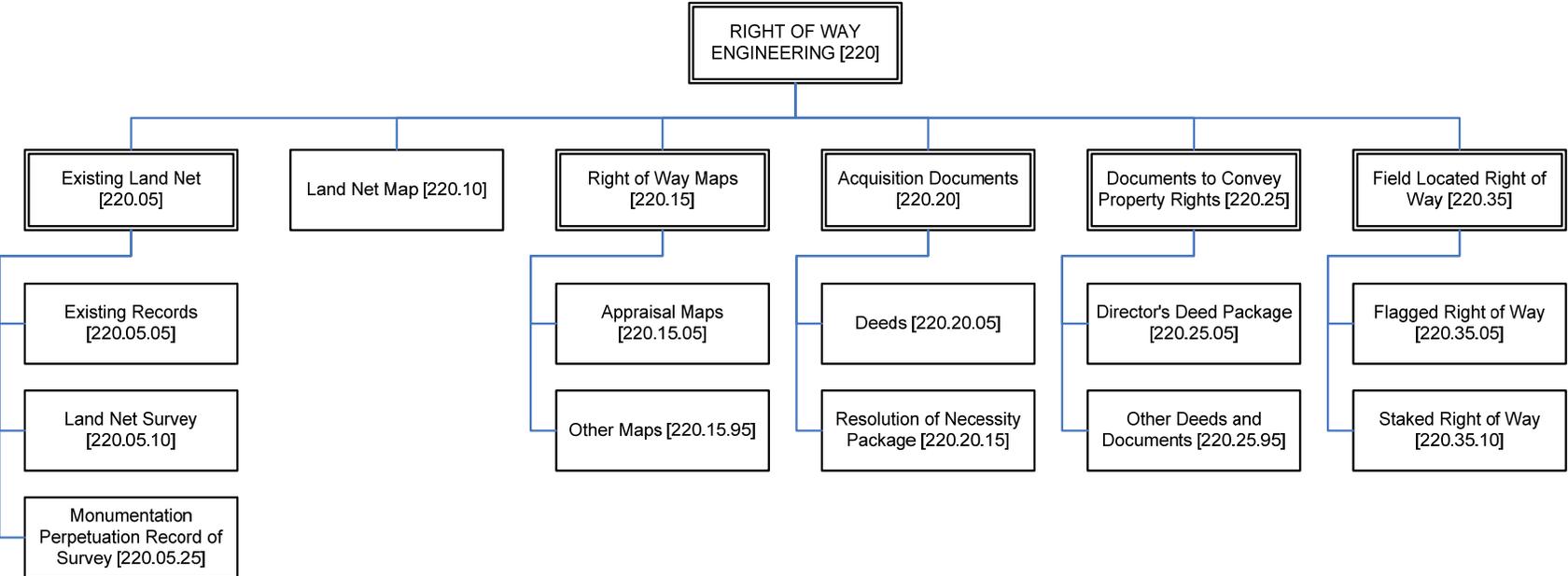
Guidance

- Right of Way Manual – Forms and Exhibits, Chapter 13
- Right of Way Manual – Reference Version, Chapter 13

200.99 Other Utility Relocation Products

All other work, during the Utility Relocation efforts, not defined or covered in other 200 elements.

220 Right of Way Engineering



220

220 Right of Way Engineering

Work involved in performing Right of Way Engineering work in advance of Appraisal and Acquisition activities. Includes preparing appraisal maps. The Right of Way Engineering effort required for environmental/hazardous material/paleontology mitigation is addressed under WBS element 235.

220.05 Existing Land Net

Collection of all record data and field evidence required to begin development of the Right of Way Base Map (WBS 220.10)

Business Practice:

- Work for WBS 220.05.05 and WBS 220.05.10 products may be performed in part or completely under WBS 160.20.25 and WBS 160.20.30 respectively. Regardless of which WBS element the products are created under, an effort should be made to have them completed prior to receipt of Right of Way requirements (WBS 185.25). It is often advantageous to perform the land net survey, in part or in whole, while performing the control survey work for the engineering surveys during the PA&ED phase of the project. When record data search or land net surveys are performed during the PA&ED phase WBS 160.20.25 and 160.20.30 should be charged.

Quality

- Refer to Caltrans Surveys Manual, Section 10.12

End Product(s)

- Land-Net Survey, Refer to Caltrans Surveys Manual, Section 10.10 (all)
- Complete Survey Documentation, Refer to Caltrans Surveys Manual, Section 10.11 (all).

220.05.05 Existing Records

Perform thorough research to locate all relevant survey and land ownership records required to complete existing land-net field survey (WBS 160.20.30 and /or 220.05) boundary analysis, determination, and delineation (WBS 160.20.35 and/or 220.10). Create the Monument Search Map for use during the land-net Survey (WBS 160.20.30 and/or 220.05.10), Refer to Caltrans Surveys Manual, Section 10.5 and 10.7.

Business Practice:

- Work for this product may be performed under WBS 160.20.25 or WBS 220.05.05. Charge code usage is dependent on district charging practices and opening of project phase 2. Care should be taken to charge in concurrence with project resource estimate.

Quality

- Care should be taken to ensure that all relevant record documents are located and obtained to ensure proper completion of all Land Net Surveys and the Land Net Map.

End Product(s)

- Existing records, Refer to the Caltrans Surveys Manual, Section 10.5 (all).
- Pre-Land Net Survey Monument Search Map - Refer to Caltrans Surveys Manual, Section 10.6 and 10.7

220.05.10 Land Net Survey

All activities required in performing an ownership boundary retracement survey. Search, recover, describe, and tie-in existing controlling land survey monuments, followed by observation adjustment and calculating coordinates.

Business Practice:

- Work for this product may be performed under WBS 160.20.30 or WBS 220.05.10. Charge code usage is dependent on district charging practices and opening of project phase 2. Care should be taken to charge in concurrence with project resource estimate.

Quality

- All products must meet or exceed criteria as set forth in the references provided with each product listed below.

End Product(s)

- Post Land-Net Survey Monument Search Map, Refer to Caltrans Surveys Manual, Section 10.10-3
- Notice of Intent to Survey, Refer to Caltrans Surveys Manual, Section 10.8
- Field Package, Refer to Caltrans Surveys Manual, Section 10.9
- Adjusted Land-Net Field Survey, Refer to Caltrans Surveys Manual, Sections 5.4 (all), 10.10 (all), 10.11-5, and Figure 5.1A.
- Perpetuated Monuments or Evidence Corner Records, Refer to Caltrans Surveys Manual, Section 10.10-6, California State Land Surveyors Act, Section 8771, and the Rules of the California Board of Professional Engineers and Land Surveyors
- Monument Perpetuation List, Refer to Caltrans Surveys Manual, Section 10.10-7. List should contain all Survey and Land-Net monuments that will be disturbed during any element of the project.
- Survey Documentation, Refer to Caltrans Surveys Manual, Section 10.11 (all).
- Note: If a Record of Survey is filed instead of multiple Corner Records, effort for creating and filing Record of Survey should be charged to WBS 220.05.25

220.05.25 Monumentation Perpetuation Record of Survey

All efforts required for preparation, filing and recording a Record of Survey of the Land-Net Survey, as required by the California State Land Surveyors Act, Section 8762(b) map as defined in Section 8765(a). Refer to Caltrans Surveys Manual, 10.10-6.

Business Practice:

- Department preferred method is filing a Record of Survey. An “In-Lieu” map should only be filed when filing a Record of Survey would impose an extreme hardship on the department.

Quality

- The map document produced must meet all requirements as set forth in the California Land Surveyors Act, Sections 8762 through 8765, and the Caltrans CADD Manual Section 2.4.E (all).

End Product(s)

- Retracement Record of Survey.

Note: Producing Corner Records required by the Land-Net field survey should be charged to WBS 220.05.10.

220.10 Land Net Map

The Land-Net Map depicts the condition of existing property ownership boundaries, lines, and monuments (land net). Effort entails completion of work activities required to analyze, determine, and delineate a single land-net that encompasses the whole project. Refer to Caltrans Surveys Manual, Section 10-14, Caltrans Right of Way Manual, Section 06.03.02.00, and Caltrans CADD Manual, Section 2.4 E (all).

Business Practice:

- The CADD drawing file produced in this work element will be used as the base layer in subsequent project work elements (WBS 220.15, WBS 220.20, WBS 220.25, and WBS 300). Work for this product may be performed under WBS 160.20.35 or WBS 220.10. Charge code usage is dependent on district charging practices and opening of the project's phase 2. Care should be taken to charge in concurrence with project resource estimate. Regardless of which WBS element the Land-Net Map is created under an effort should be made to have it completed prior to receipt of Right of Way requirements (WBS 185.25).

Quality

- Boundary analysis and retracement of the land-net will be performed in accordance with accepted professional land surveying practices and applicable laws.

End Product(s)

- CADD drawing file delineates existing property ownerships, monuments, etc. Delineated data includes Record Data (WBS 220.05.05), Land-Net Survey results (220.05.10), and calculated missing land-net elements.

Note: Calculation or delineation of new parcels or ownership lines should be included in WBS 220.15.05.

220.15 Right of Way Maps

Create various Right of Way Maps. Also includes the certification of the sufficiency of the right of way by designers prior to finalizing the appraisal maps.

Business Practice:

- Products created under this work element will be based on the CADD drawing file product created in the Land Net Map work element (WBS 220.10).

Quality

- The maps produced must meet all requirements as set forth in the Caltrans Plans Preparation Manual, Chapter 4, and the Caltrans CADD User Manual Section 2.4.E (all).

End Product(s)

- Appraisal Maps
- State or Federal Application Maps
- Hardship Maps
- Protection Maps
- Miscellaneous Right of Way Maps

Note: Does not include Cost Estimate Maps (WBS 150.15.05 and/or 160.10.40), Land Net Maps (WBS 160.20.35 and/or 220.10), Record Maps (WBS 300.20), or Relinquishment and Vacation Maps (WBS 300.25).

220.15.05 Appraisal Maps

Includes the calculation and delineation of all new parcels and sub-parcels, using the Land Net Map (WBS 220.10) and the Right of Way Requirements submittal (WBS 185.25) .

Business Practice:

- On larger projects transmittal of Appraisal Maps to Right of Way should be done in stages to promote continuous product flow. First transmittal of Appraisal Maps to Right of Way should occur no later than the projects M225 Milestone date (Regular Right of Way). A delivery schedule should be negotiated with Right of Way and filed with the project. Upon written agreement with Right of Way, the delivery schedule of Appraisal Maps may deviate from the official project schedule.

Quality

- The maps produced must meet all requirements as set forth in the Caltrans Plans Preparation Manual, Section 4-5 (all), the Caltrans CADD User Manual Section 2.4.E (all), and the Caltrans Right of Way Manual, Sections 06.04.01 through 06.04.03.

End Product(s)

- Appraisal Maps, Refer to the Caltrans RW Manual, Section 06.04.01 through 06.04.03 and Exhibit 6-EX-1 (E), the Caltrans Plans Preparation Manual, Section 4-5 (all), and the Project Development Procedures Manual (PDPM), Chapter 14, Section 1, Article 4.
- Certificate of Sufficiency (CoS), Refer to the Caltrans RW Manual, Section 06.04.04 and Exhibit 6-EX-9, the Caltrans Plans Preparation Manual, Section 4-5 (all), and the Project Development Procedures Manual (PDPM), Chapter 14, Section 1, Article 4.
- Hazardous Material Disclosure Document - Acquisition (HMDD-A), Refer to the Caltrans RW Manual, Section 06.04.04 and Exhibit 6-EX-9, the Project Development Procedures Manual (PDPM), Chapter 18, Article 4, and Caltrans form ENV-0001.

220.15.95 Other Maps

Creation of Right of Way Maps other than those specifically mentioned in other Right of Way Engineering or Right of Way WBS codes.

Quality

- The maps produced must meet all requirements as set forth in the Caltrans Plans Preparation Manual, Chapter 4, the Caltrans CADD User Manual Section 2.4.E (all), and the Caltrans Right of Way Manual, Chapter 6.

End Product(s)

- Refer to Caltrans Plans Preparation Manual, Chapter 4, the Caltrans CADD User Manual Section 2.4.E (all), and the Caltrans Right of Way Manual, Chapter 6.
- Application For State Sovereign Lands Maps
- Federal Lands Application Maps
- Freeway Lease Area Maps
- Right Of Way Hardship Maps
- Right Of Way Protection Maps

- Transfer Of Jurisdiction Maps
- Miscellaneous Right of Way Maps
- Cost Estimate Map
- Resolution of Necessity
- Court Exhibits

220.20 Acquisition Documents

Includes all property acquisition document preparation work efforts. Does not include contract obligation documents (WBS 220.25). Refer to Caltrans Right of Way Manual, Section 06.05 (all).

Quality

- Document preparation will be performed in accordance with accepted professional land surveying practices and applicable laws.

End Product(s)

- Deeds
- Legal Descriptions
- Resolution of Necessity Legal Descriptions

220.20.05 Deeds

Includes preparation of legal description and ancillary conveyance documents associated with the deed; does not include Director's deeds (WBS220.25.05). Refer to Right of Way Manual, Section 06.06 (all), and Forms RW6-1A through RW6-1R, RW6-1X through RW6-1Z.

Business Practice:

- A delivery schedule based on milestone M225 should be negotiated with Right of Way and filed with the project.

Quality

- Document preparation will be performed in accordance with accepted professional land surveying practices and applicable laws.

End Product(s)

- Deeds
- Legal Descriptions

220.20.15 Resolution of Necessity Package

Includes description for Resolution of Necessity, any additional information for the filing of the complaint, and the preparation of any attendant map or plat. Refer to Caltrans Right of Way Manual, Section 06.07 (all); Exhibit 6-EX-1 (F) and Caltrans Plans Preparation Manual, Section 4-8 (all).

Quality

Document preparation will be performed in accordance with accepted professional land surveying practices and applicable laws.

End Product(s)

Resolution of Necessity Legal Descriptions

220.25 Documents to Convey Property Rights

Effort entails preparation of documents required to convey property rights for various reasons, including satisfying contractual obligations. Does not include deeds described under Acquisition Documents (WBS 220.20).

Quality

- Document preparation will be performed in accordance with accepted professional land surveying practices and applicable laws.

End Product(s)

- Director's Deeds and Plats
- Utility Deeds and Plats
- Other Deeds

220.25.05 Director's Deed Package

Includes preparation of Director's Deed and attendant maps or plats for contract obligations with other than a utilities entity. Refer to Caltrans Right of Way Manual, Section 06.13 (all), Exhibits RW6-S through RW6-W and RW6-S&T, and Caltrans Plans Preparation Manual, Section 4-10 (all).

Quality

- Document preparation will be performed in accordance with accepted professional land surveying practices and applicable laws.

End Product(s)

- Director's Deeds and Plats

220.25.95 Other Deeds and Documents

Creation of Deeds and supporting documents other than those specifically mentioned in other Right of Way Engineering WBS codes.

Quality

- Maps produced must meet all requirements as set forth in the Caltrans Plans Preparation Manual, Chapter 4, the Caltrans CADD Manual Section 2.4.E (all), and the Caltrans Right of Way Manual, Chapter 6. Document preparation will be performed in accordance with accepted professional land surveying practices and applicable laws.

End Product(s)

Refer to Caltrans Plans Preparation Manual, Chapter 4, Caltrans CADD Manual Section 2.4.E (all), the Caltrans Right of Way Manual, Chapters 6 and 13. Products include but are not limited to:

- Exchange Transactions
- Correctory Deeds
- Utility Agreements (including JUA and CCUA)

220.35 Field Located Right of Way

Includes all efforts to mark, in the field, current and proposed right of way lines by both approximate and accurate methods. Marked lines should be easily discernable.

220.35.05 Flagged Right of Way

Includes a temporary and approximate marking of the right of way. Used for the purpose of appraisal, acquisition, disposal of land, or utility relocation planning and estimating. Refer to the Caltrans Surveys Manual, Section 10.15-1 and 10.15-2.

Business Practice:

- When a right of way line between state and private property is being flagged, enough marks will be placed to locate the right of way without being unsightly.

Quality

- Marks will be set to meet requirements set forth in the Caltrans Surveys Manual, Figure 5-1.

End Product(s)

- An easily locatable right of way line marked by the placement of flagging, paint, or lath.

220.35.10 Staked Right of Way

Include a permanent and accurate marking of the right of way. Used to provide a durable visible location of a right of way feature and its angle points. Refer to the Caltrans Surveys Manual, Section 10.15-3 and 10.15-4.

Business Practice:

- Right of way points are to be set at angle points, the beginning and end of curves, and at intersections with improvements. Points should be set to ensure that there is intervisibility between successive points. Setting of permanent monuments may require filing of a Record of Surveys as required under California State Land Surveyors Act, Section 8762(b).

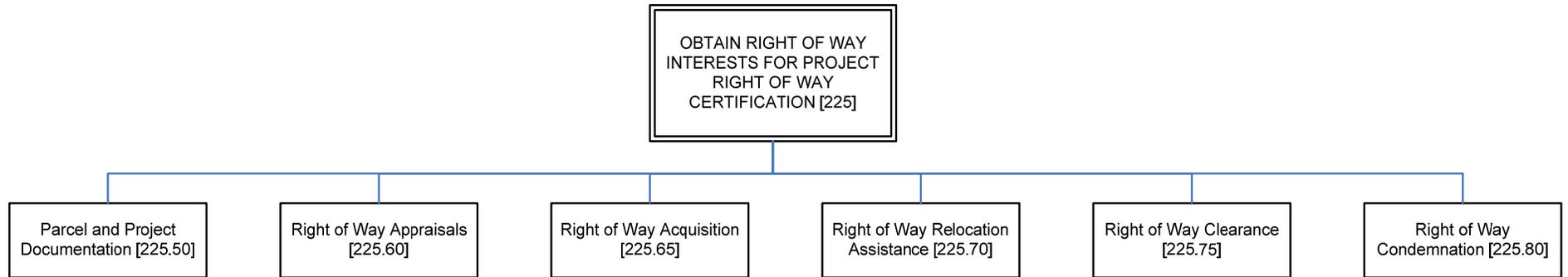
Quality

- Marks will be placed to meet requirements set forth in the Caltrans Surveys Manual, Figure 5-1.

End Product(s)

- An easily locatable right of way line marked by the placement of permanent monuments

225 Obtain Right of Way Interests for Project Right of Way Certification



225 Obtain Right of Way Interests for Project Right of Way Certification

Work involved in assuring that the State has legal and physical possession and right to enter on all land for the project necessary for deliverance of the Right of Way Certification.

225.50 Parcel and Project Documentation

Includes all work not specified in other Level 6 or 7 deliverables that lead to the Right of Way Certification of the project.

Guidance

- Right of Way Manual - Forms and Exhibits
- Right of Way Manual - Reference Version
- Plans, Specifications, and Estimates Guide, Section 2-3.02A
- [Project Development Procedures Manual \(PDPM\), Chapter 14, Section 1, Article 4](#)

Sub-Tasks

None identified.

End Product(s)

- Right of Way Certification

225.60 Right of Way Appraisals

Work involved appraising property rights required for acquisition purposes.

Guidance

- Right of Way Manual - Forms and Exhibits, Chapter 7
- Right of Way Manual - Reference Version, Chapter 7
- Right of Way Manual - Chapter 17
- [Project Development Procedures Manual \(PDPM\), Chapter 14, Section 1, Article 4](#)

225.65 Right of Way Acquisition

Work involved acquiring property rights necessary for Right of Way Certification purposes.

Guidance

- Right of Way Manual - Forms and Exhibits, Chapter 8
- Right of Way Manual - Reference Version, Chapter 8
- Right of Way Manual - Chapter 17
- [Project Development Procedures Manual \(PDPM\), Chapter 14, Section 2, Article 2](#)

225.70 Right of Way Relocation Assistance

Work involved relocating occupants of acquired property necessary for Right of Way Certification purposes.

Guidance

- Right of Way Manual - Forms and Exhibits, Chapter 10

- Right of Way Manual - Reference Version, Chapter 10
- Right of Way Manual - Chapter 17

225.75 Right of Way Clearance

Work involved in clearing the right of way of improvements, either by selling or demolishing improvements necessary for Right of Way Certification purposes.

Guidance

- Right of Way Manual - Forms and Exhibits, Chapter 12
- Right of Way Manual - Reference Version, Chapter 12

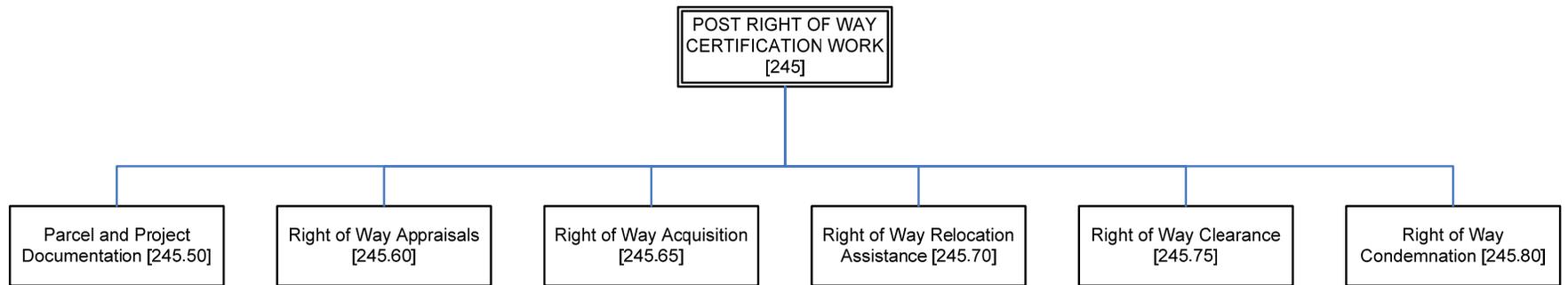
225.80 Right of Way Condemnation

Work involved in delivering condemnation work necessary for Right of Way Certification purposes.

Guidance

- Right of Way Manual - Forms and Exhibits, Chapter 9
- Right of Way Manual - Reference Version, Chapter 9
- Right of Way Manual - Chapter 17, Section 17.04.09
- Staking Information
- Surveys Manual
- [Project Development Procedures Manual \(PDPM\), Chapter 28](#)

245 Post Right of Way Certification Work



245 Post Right of Way Certification Work

Work involved in assuring that all Right of Way deliverables are completed after the project has been certified as mentioned in WBS 225.

245.50 Parcel and Project Documentation

Includes all work not specified in other Level 6 or 7 deliverables that lead to Right of Way project closeout.

Guidance

- Right of Way Manual - Forms and Exhibits
- Right of Way Manual - Reference Version
- Plans, Specifications, and Estimates Guide, Section 2-3.02A
- [Project Development Procedures Manual \(PDPM\), Chapter 14, Section 1, Article 4](#)

End Product(s)

- Right of Way project closeout or Final Voucher of the project

245.60 Right of Way Appraisals

Work involved appraising property rights required for acquisition purposes.

Guidance

- Right of Way Manual - Forms and Exhibits, Chapter 7
- Right of Way Manual - Reference Version, Chapter 7
- [Project Development Procedures Manual \(PDPM\), Chapter 14, Section 1, Article 4](#)

245.65 Right of Way Acquisition

Work involved acquiring property rights required for Right of Way project closeout.

Guidance

- Right of Way Manual - Forms and Exhibits, Chapter 8
- Right of Way Manual - Reference Version, Chapter 8
- [Project Development Procedures Manual \(PDPM\), Chapter 14, Section 2, Article 2](#)

245.70 Right of Way Relocation Assistance

Work involved relocating occupants of acquired property required for Right of Way project closeout.

Guidance

- Right of Way Manual - Forms and Exhibits, Chapter 10
- Right of Way Manual - Reference Version, Chapter 10

245.75 Right of Way Clearance

Work involved in clearing the right of way of improvements, either by selling or demolishing improvements required for Right of Way project closeout.

Guidance

- Right of Way Manual - Forms and Exhibits, Chapter 12
- Right of Way Manual - Reference Version, Chapter 12

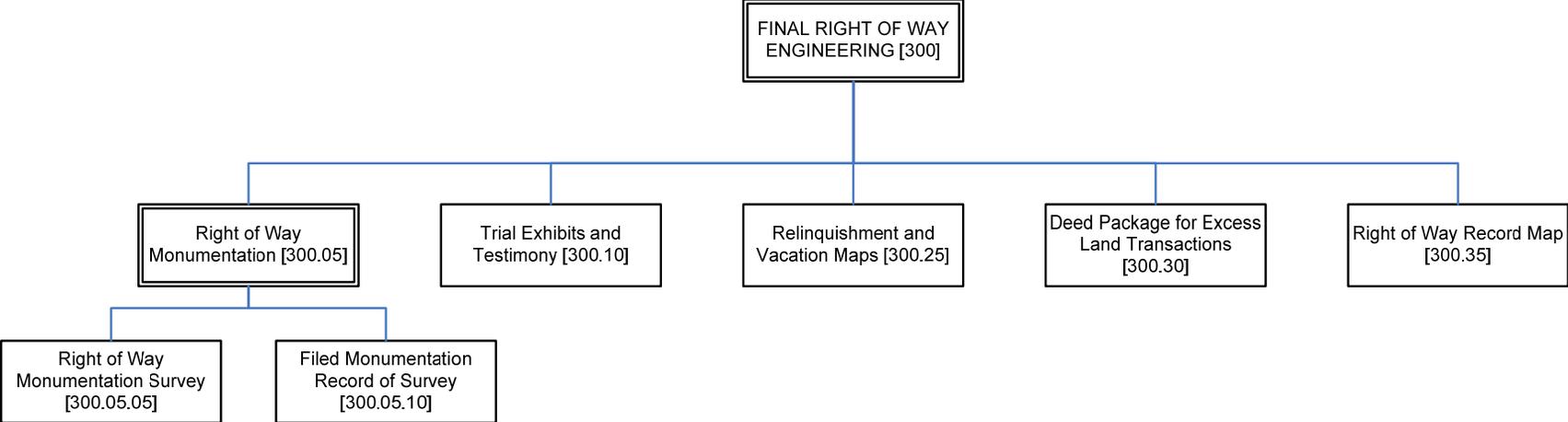
245.80 Right of Way Condemnation

Work involved in delivering condemnation work required for Right of Way project closeout.

Guidance

- Right of Way Manual - Forms and Exhibits, Chapter 9
- Right of Way Manual - Reference Version, Chapter 9
- Staking Information
- Surveys Manual
- [Project Development Procedures Manual \(PDPM\), Chapter 28](#)

300 Final Right of Way Engineering



300 Final Right of Way Engineering

Work that is normally performed after construction of the project is complete and accepted by the Resident Engineer. Work involved is normally the monumentation of the right of way, relinquishments and vacations, preparation of R/W record maps, and preparation of deed packages for excess land transactions.

300.05 Right of Way Monumentation

Effort includes field and office land surveying work required to be in compliance with the Professional Land Surveyors Act, Sections 8762-8765, 8771, and 8773, and Board Rules, Sections 464 and 465.

End Product(s)

- Filed Monumentation Record of Survey

300.05.05 Right of Way Monumentation Survey

Includes all right of way monumentation field survey effort before, during and at completion of project construction. Refer to Caltrans Surveys Manual, Sections 10.16-1, 10.16-2, and 10.16-4.

Quality

- Boundary analysis, retracement of the land net, and mapping will be performed in accordance with accepted professional land surveying practices and applicable laws.

End Product(s)

- Field Package, Refer to Caltrans Surveys Manual, Section 10.9
- Adjusted Land Net Field Survey, Refer to Caltrans Surveys Manual, Sections 5.4 (all), 10.10 (all), 10.11-5, and Figure 5.1
Note: Pre-construction land-net monument perpetuation effort should be performed under activity 160.20.30 and/or 220.05.10. Effort does not include preparation or filing of Record of Survey.

300.05.10 Filed Monumentation Record of Survey

Effort includes preparation, filing, and correcting of Monumentation Record of Survey. Refer to Caltrans Surveys Manual, Section 10.16-3.

Business Practice:

- Department preferred method is filing a Record of Survey. An “In-Lieu” map may only be filed when filing a Record of Survey would impose an extreme hardship on the department.

Quality

- Boundary analysis, retracement of the land net, and mapping will be performed in accordance with accepted professional land surveying practices and applicable laws.

End Product(s)

- Filed Monumentation Record of Survey

Note: Pre-construction retracement Record of Survey effort should be performed under activity 220.05.25 Actual field survey effort not include under this code.

300.10 Trial Exhibits and Testimony

Effort includes assisting in trial exhibit preparation, participating in pre-trial conferences and depositions, and expert testimony in court. Refer to the Caltrans Right of Way Manual, Section 9.07.04

Business Practice:

- Creation of trial exhibits should be delayed as long as reasonably possible. Staff should liaison with Right of Way and Legal on a regular basis to ascertain that trial is still schedule. Often an out of court settlement is reached, which precludes the necessity for trial exhibits.

End Product(s)

- Right of Way Trial Exhibits
- Expert Testimony

300.25 Relinquishment and Vacation Maps

- Includes all work required to complete the relinquishment and vacation process of state facilities and right of way and collateral facilities, normally after completion of project construction.
- Refer to Caltrans Right of Way Manual, Sections 6.11 (all) and 6.12 (all)

Business Practice:

- Relinquishment package should be delivered to the Division of Right of Way and Land Surveys, Office of Land Surveys, 4 months prior to completion of the related construction project.
- For closed projects try the following in order shown:
- Attempt to have original Project reopened.
- Have new project assigned specifically for performing this project element work. If this option is available, phase 2 should be opened to correctly charge time to this Project
- Charge time to Project 00 0000 0838.

Quality

- The maps produced must meet all requirements as set forth in the Caltrans Plans Preparation Manual, Chapter 4, and the Caltrans CADD Manual Section 2.4.E (all)

End Product(s)

- Relinquishment Maps
- Vacation Maps
- Corresponding Documentation
- CTC Resolution (filed with county.)

300.30 Deed Package for Excess Land Transactions

Effort includes preparation of documents required to convey property rights to satisfy excess land transactions. Includes preparation of Director's Deed and Plat.

Business Practice:

- Effort should be made to complete deeds and plats for all identified excess land parcels prior to close of Project. If Project has been closed, an effort should be made to reopen Project for charging work for this WBS element.
- For closed projects try the following in order shown

- Attempt to have original Project reopened.
- Charge time to the District's pseudo-project ID for Director's Deeds and Maps.

Quality

- The maps produced must meet all requirements as set forth in the Caltrans Plans Preparation Manual, Chapter 4, and the Caltrans CADD Manual Section 2.4.E (all)

End Product(s)

- Excess Land Deed and Plat.

300.35 Right of Way Record Map

Includes all effort in the preparation or modification of right of way maps for filing as an official District R/W Record Map. Tasks include, but not limited to, temporary record map review, excess land delineation, verifying and posting conveyance document information, and updating status of excess lands.

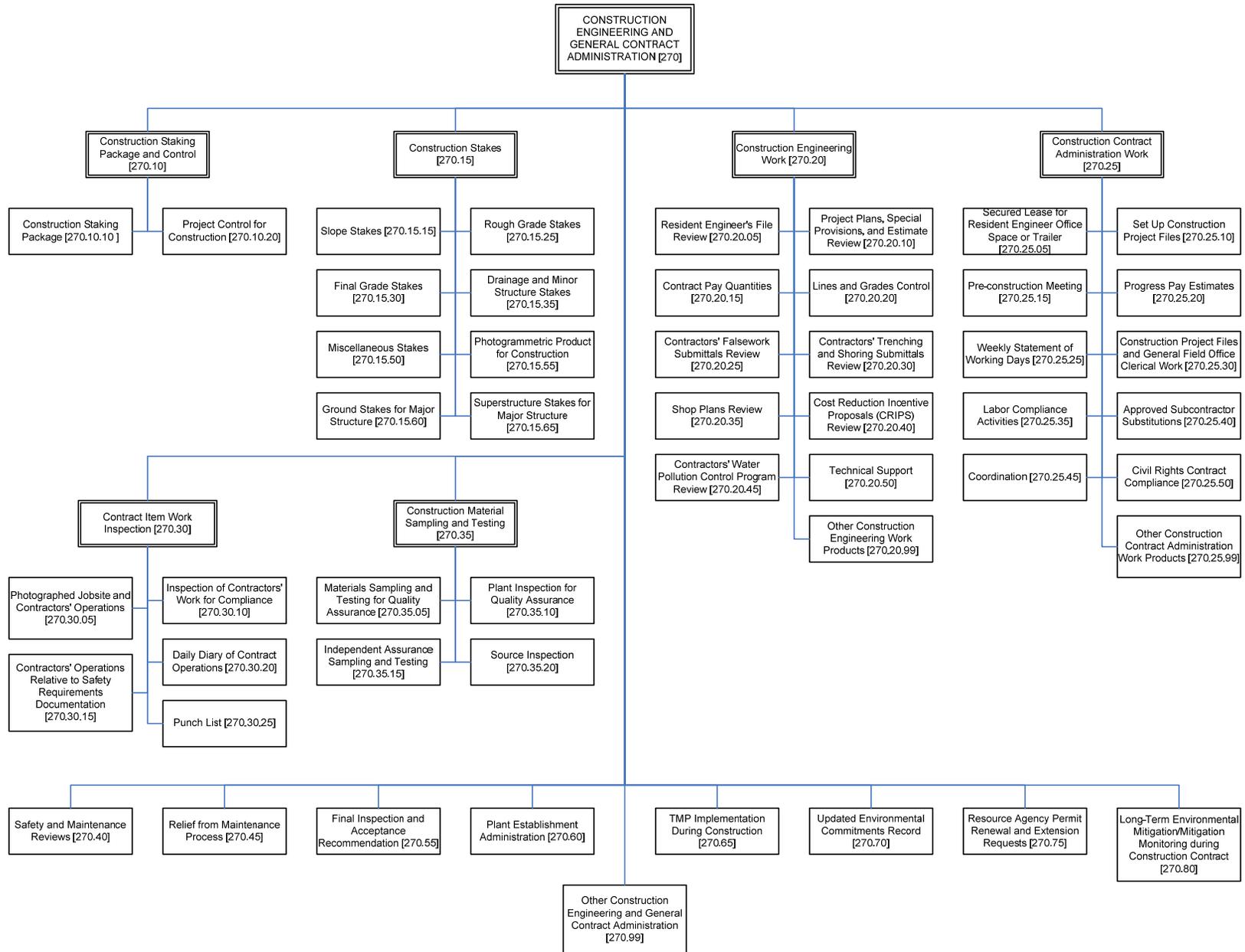
Quality

- The maps produced must meet all requirements as set forth in the Caltrans Plans Preparation Manual, Chapter 4, and the Caltrans CADD Manual Section 2.4.E (all)

End Product(s)

- Right of Way Record Map

270 Construction Engineering and General Contract Administration



270 Construction Engineering and General Contract Administration

Work involved in field engineering, construction surveys, inspection of contractors' operations, sampling and testing of materials, and general construction contract administration. The end product of this activity is the Contract Acceptance

270.10 Construction Staking Package and Control

Develop the Construction Staking Notes Package (CSNP) required by surveys field crews and ensure that adequate project control exists to complete all required construction staking.

End Product(s)

- Construction Staking Notes package
- Construction Staking Electronic Data file

270.10.10 Construction Staking Package

Develop the Construction Staking Notes Package required by surveys field crews to complete all required construction staking. Notes and files will contain all information required by field survey crews to stake the project for construction.

Business Practice:

- Work for WBS 270.10.10 products may be performed in part under WBS 255.35.10. Creation of the CSNP should be started and substantially completed during the PS&E phase under WBS 255.35.10. Completion and revision to the CSNP can be completed under WBS 255.35.10 and charged to the phase 1 or under WBS 270.10.10 and charged to the phase 3.

End Product(s)

- Electronic Alignments for Structures
- Roadway and Drainage
- Slope Stake/Finish Grade hard copies
- Drainage/Structure detail sketches

Note: This task does not include performance of any Civil Engineering duties as listed in the California Business and Professions Code, Section 6731 by Survey staff.

270.10.20 Project Control for Construction

Tasks include reestablishing and supplementing project control as necessary to ensure that control is viable for construction staking. Includes all work required to enable control to be used for any type of staking / construction methods.

Business Practice:

- All control necessary for construction staking should be ready for use at the beginning of the project construction phase. Exception to this practice is when it is expected that a control point would be disturbed during construction prior to its required use.

Quality

- Refer to Caltrans Surveys Manual, Chapters 5 and 9, and Figure 5.1

End Product(s)

- Sufficient control to stake project during construction.

270.15 Construction Stakes

Construction staking operations performed at the construction project site. Surveys time reviewing the construction-staking request, traveling to the construction project, performing the staking and all staking related survey operations.

End Product(s)

- Construction staking to control planned lines and grades
- Notes resulting from construction staking

270.15.15 Slope Stakes

Slope stakes control the construction of earthwork slopes, including bridge abutment fill stakes.

Guidance

- Surveys Manual, Chapter 12, Section 12.5-2, 12.5-3, and 12.5-10

270.15.25 Rough Grade Stakes

Rough grade stakes aid rough finishing of the grading plane. They are only set when requested by the Resident Engineer when cuts or fills are greater than 30 feet

270.15.30 Final Grade Stakes

Controls all elements of the structural section (the grading plane, sub-base, base, and pavement). Can also be used to curb, gutter, sidewalk, etc. Commonly referred to as Finish Grade Stakes.

270.15.35 Drainage and Minor Structure Stakes

Control minor drainage structures, pipes, and similar facilities as well as minor structure stakes such as sign bases, lighting and signal foundations, other foundations, and similar miscellaneous structures.

270.15.50 Miscellaneous Stakes

Used to control all other required features not specified in other codes. Includes fence, utilities, landscaping, etc.

270.15.55 Photogrammetric Product for Construction

Includes preparing mapping request, flight line and control distribution planning, pre-marking control survey, aero-triangulation, contract administration, 3-D compilation, map assembly, data conversion, quality control and digital modeling, or other products as specifically requested by Construction.

270.15.60 Ground Stakes for Major Structure

Used to control staking of footings, bents, abutments, wingwalls, walls, and other ground features related to the structure. Surveys does not set stakes to reference individual piles, individual pile cutoff elevations, or falsework. Used for all stakes, set in ground, used to reference major structures.

Note: Use of the term “Ground Stakes” in title refers to the location of the reference stake, not the location of the item being referenced.

270.15.65 Superstructure Stakes for Major Structure

Includes temporary benchmarks set on top of columns, and single offset control stakes to the alignment set on the soffit forms. Used for all stakes, set in the superstructure, used to reference major structures.

Note: Use of the term “Superstructure” in title refers to the location of the reference stake, not the location of the item being referenced.

270.20 Construction Engineering Work

All work involved in the conduct of construction engineering work for the construction contract. See detail activities at Level 7 below.

End Product(s)

- The end of this product coincides with the end of field construction work.

270.20.05 Resident Engineer’s File Review

Resident Engineer reviews the Resident Engineer’s file and Structures R.E. Pending File paying particular attention to the requirements of the environmental commitments and permits

Guidance

- Construction Manual Chapter 5
- Prevailing State Wage Rates
- [Standard Environmental Reference \(SER\)](#)

Sub-Tasks

- Review Environmental Commitment Record
- Review Mitigation Monitoring and Reporting Plan
- Review 1600 Permits/Agreements
- Review 404 Permit
- Review other environmental permits
- Review environmentally sensitive areas
- Review air pollution control measures
- Review sound control measures
- Review Environmental Document

270.20.10 Project Plans, Special Provisions, and Estimate Review

Guidance

- Construction Manual, Chapter 1
- Prevailing State Wage Rates

End Product(s)

- Production of Contract plans for preparing As-Built plans.

270.20.15 Contract Pay Quantities

Work involved in measuring and calculating the contract item pay quantities for the construction project; This includes preparation of payment sheets to be used for quantity sheets.

Guidance

- Construction Manual Chapter 3
- Prevailing State Wage Rates

270.20.20 Lines and Grades Control

Using the field survey stakes and notes from Surveys, the construction field engineering staff determines and lays out all additional lines and grades necessary to construct/ erect/ place a particular structure (or portion of a structure) or portion of the roadway work.

Guidance

- Construction Manual

270.20.25 Contractors' False work Submittals Review

Structure construction field engineering staff's review and approval of the Contractor's false work submittals for design adequacy, construct-ability, contract compliance, and completeness.

Guidance

- Construction Manual Section 2, 3 & 4
- Prevailing State Wage Rates
- Falsework Manual
- Bridge Construction Records and Procedures, Sections 3

270.20.30 Contractors' Trenching and Shoring Submittals Review

Structure construction field engineering staff's review and approval of the Contractor's Trenching & Shoring submittals for design adequacy, construct-ability, contract compliance, and completeness.

Guidance

- Construction Manual Chapter 2, 3 & 4
- Prevailing State Wage Rates
- Trenching and Shoring Manual
- Bridge Construction Records and Procedures, Section 3

270.20.35 Shop Plans Review

Includes review and approval by construction and non-construction staff, of Shop Plans/Working drawing for contract compliance.

Guidance

- Construction Manual Chapter 4, 5 & 6
- Prevailing State Wage Rates

270.20.40 Cost Reduction Incentive Proposals (CRIPS) Review

Review and approval for design adequacy, construct-ability, contract compliance, estimate of cost savings, potential impacts on the environment, conformity with permit requirements, any necessary specification changes or additions, etc. of a Contractor's submitted CRIP. Development of the Construction Change Order (CCO) for an approved CRIP is included in WBS 285.

Guidance

- Construction Manual Chapter 3 & 5
- Prevailing State Wage Rates

270.20.45 Contractors' Water Pollution Control Program Review

Review and approval for contract compliance and adequacy for the particular construction project site.

Guidance

- Construction Manual, Chapter 3,4,5 & 7
- Prevailing State Wage Rates

270.20.50 Technical Support

Technical Support for the construction engineering staff provided by personnel other than construction staff, providing support to construction engineering activities. Includes Design, Traffic, Hydraulics, Materials, DES/Structure Design, DES/Geotechnical Services, Environmental, Landscape Architect, Surveys, Maintenance and other specialty staff. Functional support may include attendance at pre-work conferences, resource identification and staking, on-site construction support and RE pending file review. Includes foundation testing by Geotechnical Services.

Guidance

- Construction Manual Chapter 1, 4 & 5
- Prevailing State Wage Rates
- [Standard Environmental Reference \(SER\)](#)
- California Test Method 233

270.20.99 Other Construction Engineering Work Products

All other work, during the Construction Engineering Work efforts, not defined or covered in other 270.20 elements.

270.25 Construction Contract Administration Work

All work involved in the conduct of contract administration work for the construction contract. See detail activities at Level 7 below.

End Product(s)

- All administration, record keeping and filing are complete for the construction project up through final estimate.

270.25.05 Secured Lease for Resident Engineer Office Space or Trailer**Guidance**

- Construction Manual, Chapter 1
- Prevailing State Wage Rates

270.25.10 Set Up Construction Project Files

Involves the initial work to develop the contract administration files.

Guidance

- Construction Manual Chapter 1 & 5
- Prevailing State Wage Rates

270.25.15 Pre-construction Meeting

Includes in-house meeting after Pre-Construction meeting to establish Partnering Agreement, and the use of a Dispute Review Board (DRB).

Guidance

- Construction Manual, Chapter 1 & 5
- Prevailing State Wage Rates
- Environmental Handbook, Sections 1-2.8

Sub-Tasks

- Meet with Environmental Specialists
- Meet with Environmental/Construction Liaison
- Develop Monitoring Schedule
- Plan to insure that environmental specialists are in attendance when contractor's operations may be affected (required by Section 5-003 of the Construction Manual)

270.25.20 Progress Pay Estimates**Guidance**

- Construction Manual Chapter 1 & 5
- Prevailing State Wage Rates
- Bridge Construction Records and Procedures, Sections 3, 4, 5, 6, and 130

270.25.25 Weekly Statement of Working Days**Guidance**

- Construction Manual Chapter 5
- Prevailing State Wage Rates

270.25.30 Construction Project Files and General Field Office Clerical Work**Guidance**

- Construction Manual Chapter 1 & 5
- Prevailing State Wage Rates
- Bridge Construction Records and Procedures, Sections 4, 5

270.25.35 Labor Compliance Activities**Guidance**

- Construction Manual Chapter 5 & 8
- Prevailing State Wage Rates

270.25.40 Approved Subcontractor Substitutions**Guidance**

- Construction Manual Chapter 3 & 8
- Prevailing State Wage Rates

270.25.45 Coordination

Includes contact with Local agencies and others. Also includes management of the Construction Zone Enhanced Enforcement Program COZEEP agreement/contract.

Guidance

- Construction Manual Chapter 2
- Prevailing State Wage Rates
- Bridge Construction Records and Procedures, Section 8

270.25.50 Civil Rights Contract Compliance

Includes work by construction staff to comply with Civil Right statutes.

Guidance

- Construction Manual Chapters 1 & 8

Sub-Tasks

- Analysis of bid documents by construction field staff to ascertain the utilization of contract mandated DBE/DVBE.
- Field verification and documentation that the declared DBE/DVBE is performing a commercially useful function and is fully utilized for the items of work declared by the contractor.
- DBE/DVBE substitution request processing.
- Notification of changes in DBE/DVBE certification during the life of the contract.
- Final DBE utilization reporting and certification by the contractor
- Monthly DBE trucking verification.
- Investigation of DBE/DVBE violations, documentation, case reports, hearing process.
- Withholds or deductions from pay estimates for non-compliance.
- DBE Case Litigation.

End Product(s)

Compliance with Civil Right Statutes

270.25.99 Other Construction Contract Administration Work Products

All other work, during the Construction Contract Administration Work efforts, not defined or covered in other 270.25 elements.

270.30 Contract Item Work Inspection

All work involved in the conduct of inspecting contract item work for the construction contract. See detail activities at Level 7 below. Includes inspection of CCO work.

End Product(s)

- Project is in compliance with the Project Plans and Specifications. Construction inspection is complete for the construction project.

270.30.05 Photographed Jobsite and Contractors' Operations**Guidance**

- Construction Manual Chapter 2, 4 & 5
- Prevailing State Wage Rates

270.30.10 Inspection of Contractors' Work for Compliance

Includes inspection and monitoring of the contractor's Storm Water Pollution Protection Plan (SWPPP) facilities.

Guidance

- Construction Manual Chapter 2, 3, 4, 5, & 6
- Prevailing State Wage Rates
- Office of Structure Construction's Foundation Manual
- Office of Structure Construction's Concrete Technology Manual
- Bridge Construction Records and Procedures, Sections 100, 5, 112, 115, 124, 125, 130, 132, 135, 140, 145, 155, 160-162, 165, 168, 170
- Bridge Deck Construction Manual

270.30.15 Contractors' Operations Relative to Safety Requirements Documentation**Guidance**

- Construction Manual, Chapter 2, 4 & 5
- Prevailing State Wage Rates
- Bridge Construction Records and Procedures, Section 14

270.30.20 Daily Diary of Contract Operations**Guidance**

- Construction Manual, Chapters 2, 3, 4, 5 & 8
- Prevailing State Wage Rates
- Bridge Construction Records and Procedures, Section 3

270.30.25 Punch List

Work involved in preparation of a list of all work that needs to be completed before the contract can be accepted.

Guidance

- Construction Manual Chapter 3
- Prevailing State Wage Rates

270.35 Construction Material Sampling and Testing

All work involved in the conduct of sampling and testing construction material for the construction contract. See detail activities at Level 7 below.

Note: This section is subject to revision based on the pending specifications for Quality Control/Quality Assurance.

End Product(s)

- Item and method is in compliance with project specifications. All construction sampling and testing is complete for the construction project.

270.35.05 Materials Sampling and Testing for Quality Assurance**Guidance**

- Construction Manual Chapter 4
- Prevailing State Wage Rates
- Bridge Construction Records and Procedures, Sections 3, 4, 112, 145, 155, 165 & 180

270.35.10 Plant Inspection for Quality Assurance**Guidance**

- Construction Manual, Chapter 4
- Prevailing State Wage Rates

270.35.15 Independent Assurance Sampling and Testing**Guidance**

- Construction Manual, Chapter 4 & 6
- Prevailing State Wage Rates

270.35.20 Source Inspection**Guidance**

- Construction Manual, Chapter 4, 5 & 6
- Prevailing State Wage Rates

270.40 Safety and Maintenance Reviews

Reviews after the completion of construction at the project site (or for portions of the project) to ensure that all safety concerns/ requirements have been addressed and that the State Right-of-Way and all State roadway/structures/facilities within the defined project limits have been maintained by the Contractor (from beginning of construction through construction completion and contract acceptance) in accordance with the construction contract.

Guidance

- Construction Manual, Chapter 3
- Prevailing State Wage Rates

End Product(s)

- Field safety and maintenance review(s) completed.

270.45 Relief from Maintenance Process

Work in processing Relief from Maintenance notice to Contractor after safety and maintenance reviews are complete and the site is in compliance.

Guidance

- Construction Manual Chapter 3
- Prevailing State Wage Rates

End Product(s)

- Written notice of Relief from Maintenance to the Contractor.

270.55 Final Inspection and Acceptance Recommendation

Work involved in the final inspection of construction project site after Contractor has done all punch list work, and if all contract work is satisfactory the Resident Engineer will recommend acceptance in writing.

Guidance

- Construction Manual Chapter 3
- Prevailing State Wage Rates

End Product(s)

- Written Recommendation for Contract Acceptance by the District Deputy Director on behalf of the Director.

270.60 Plant Establishment Administration

All work during the plant establishment phase of a construction contract.

Sub-Tasks

- Progress Pay Estimates.
- Weekly Statement of Working Days.
- Construction Project Files and General Field Office Work.
- Labor Compliance Activities.
- Daily Report of Contract Operations.
- Monitoring plant growth and irrigation system operation, and directing remedial work.

Guidance

- Construction Manual, Chapters 3, 4,& 5
- Prevailing State Wage Rates

End Product(s)

- Plant establishment is in compliance with the project plans and specifications.

270.65 TMP Implementation During Construction

Work involved in the management and implementation of the Transportation Management Plan (TMP) during the construction component of this capital project.

Guidance

- Deputy Directive 60 regarding TMP Requirements
- TMP Guidelines
- Traffic Manual, Ch.7
- Highway Capacity Manual
- HOV Guidelines
- Ramp Metering Design Guidelines
- Traffic Bulletins
- California Manual on Uniform Traffic Control Devices Construction Manual, Section 2-30
- Drafting and Plans Manual of Instruction, Article 4-2.14
- Highway Design Manual (HDM), Chapter 100, Topic 110, Index 110.6

Sub-Tasks

- Coordinate lane closures on multiple projects in the same area
- Attend Traffic Congestion Relief (TCR) meetings, Pre-construction meetings, TMP Team meetings
- Liaison with others both in and out of the Department (REs, CEs, DTMs, TMC, TMT, Traffic Operations, Public Affairs, Maintenance, CHP, etc.)
- Coordinate major closures with neighboring districts, HQ, and local agencies to determine impact on this project
- Attend public meetings, open houses, and other meetings concerning construction related closures
- Monitor delay and adjust TMP elements for construction projects
- Review, comment and /or approve contractor's contingency plan

- Update TMP database
- Assist in resolution to citizen's complaints regarding construction related closures
- Review traffic reports and advise appropriate staff
- Monitor traffic delay and compliance with lane closure time limits
- Prepare post-TMP evaluation report and develop lessons learned for training and future projects

End Product(s)

- TMP implementation in compliance with Deputy Directive 60 and TMP Guidelines

270.70 Updated Environmental Commitments Record

Includes all efforts necessary to update the Environmental Commitments Record (ECR) and its associated documentation (e.g., Mitigation Monitoring and Reporting Record (MMRR) or Permits, Agreements, and Mitigation (PAM)) prepared at 180.15.20 and potentially updated at WBS 165.10.75, 235.05.15, 235.40, 255.15, 255.40, and 260.75. The updated ECR must be coordinated with Design. The ECR (which should also be updated at 295.35) is used as a part of the Environmental input for the RE Pending File (255.40), Environmental Certification at RTL (260.15.15), and the Certificate of Environmental Compliance (295.35).

Guidance

- [Standard Environmental Reference \(SER\)](#)

270.75 Resource Agency Permit Renewal and Extension Requests

Prepare and submit renewal and/or extension requests for previously issued permits, as necessary. In the event of new or changed permit requirements, the Environmental Commitments Record, Mitigation Monitoring and Reporting Records, RE Pending File, and similar documents must also be updated. In some instances changes may also trigger an Environmental Reevaluation

Guidance

- [Standard Environmental Reference \(SER\)](#)

270.80 Long-Term Environmental Mitigation/Mitigation Monitoring during Construction Contract

Work involved in the mitigation or monitoring of mitigation during Construction over an extended period to ensure compliance with resource and regulatory agency permits and agreements. Includes work beyond the scope of activity 235. Work done after Construction Contract Acceptance is included in WBS Element 295.40.

Guidance

- [Standard Environmental Reference \(SER\)](#)

Sub-Tasks

- Field review of site
- Develop and submit performance reports to the regulatory agency
- Perform remedial action to correct deficiencies
- Update Environmental Commitments Record at the close of construction (see WBS 270.70 and 295.35)

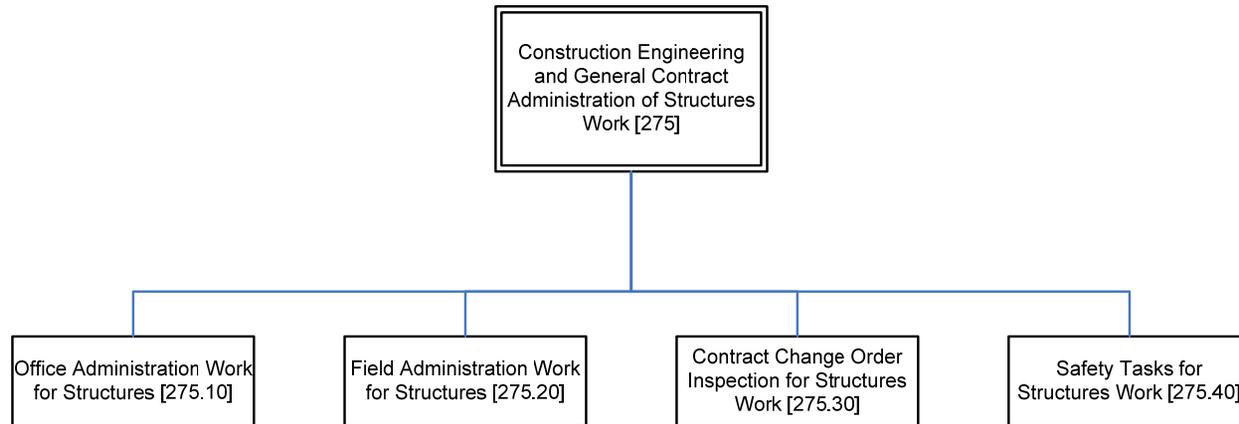
End Product(s)

- Updated Environmental Commitments Record (see WBS 295.35)

270.99 Other Construction Engineering and General Contract Administration

All other work, during the Construction Engineering and General Contract Administration Work efforts, not defined or covered in other 270 elements.

275 Construction Engineering and General Contract Administration of Structures Work



275 Construction Engineering and General Contract Administration of Structures Work

Work involved in field engineering, inspection of contractors' operations and general construction contract administration for structures work as defined by either the Request for Division of Engineering Services (DES) Workload Estimate, Division of Engineering Services PSR (PDS) Scoping Checklist, or the Division of Work Memorandum.

Guidance

- Construction Manual
- Construction Manual Supplement for Local Agency Resident Engineers
- Bridge Construction Records and Procedures Manual
- Local Agency Structure Representative Guideline
- Prevailing State Wages Rates
- Outline of Field Construction Practices

275.10 Office Administration Work for Structures

All work related to the office tasks involved in the contract administration of structures work.

Sub-Tasks

- Structures R.E. Pending File Review. Structure Representative reviews the resident engineer's file and structures resident engineer's file.
- Project Plans Special Provisions & Estimate Review. Work involved in reviewing the project plans, special provisions and the estimates to become familiar with the contract documents.

Guidance

- Construction Manual, Chapters 1 & 3
- Clerical Work and Structure Construction Project Files. Involves the initial work to develop the contract administration files for structures items

Guidance

- Construction Manual, Chapters 1 & 5
- Bridge Construction Records and Procedures, Sections 4, 5
- Pre-construction Meeting. Includes in-house meeting after Pre-Construction meeting to establish Partnering Agreement, and the use of a Dispute Review Board (DRB).

Guidance

- Construction Manual, Chapter 5
- Environmental Handbook, Sections 1-2.8
- Progress Pay Estimates and Pay Quantities for Structures Items. Includes preparation of payment sheets to be used for quantity sheets.

Guidance

- Construction Manual, Chapter 1 & 3

- Bridge Construction Records and Procedures, Sections 3, 4, 5, 6, and 130
- Correspondence. Letters and/or e-mail providing correspondence between State representatives and the Contractor.

Guidance

- Bridge Construction Records and Procedures, Section 2-7.0
- Structures Submittal and Shop Plan Review. Field engineering staff's review and approval of the Contractor's submittals for compliance with contract documents, design adequacy, constructability, and completeness. This can include trenching and shoring plans, shop plans, false work drawings and mix design reviews.

Guidance

- Construction Manual, Chapters 3 & 7
- Trenching and Shoring Manual
 - Bridge Construction Records and Procedures, Section 3
 - Prestress Manual
 - Falsework Manual
 - Concrete Technology
- Cost Reduction Incentive Proposals (CRIP) for Structures Review. Review and approval for design adequacy, constructability, contract compliance, estimate of cost savings, potential impacts on the environment, conformity with permit requirements, any necessary specification changes or additions, etc. of a Contractor's submitted CRIP for structures work. Development of the Contractor Change Order (CCO) for an approved CRIP is included in WBS 285.

Guidance

- Construction Manual, Chapter 3
- Labor Compliance Activities. Administering the labor compliance provisions of the contract per California Labor Code, Federal Highway Administration (FHWA) and the United States Department of Labor. Also includes approving subcontractor substitutions.

Guidance

- Construction Manual, Chapters 3 & 8
- Civil Rights Contract Compliance. Includes work by construction staff to comply with civil right statutes.

Guidance

- Construction Manual, Chapter 8
- Weekly Statement of Working Days. Work involved in supporting the resident engineer in using form CEM-2701 to track the contract time and using “days,” “working days,” and “controlling operation.”

Guidance

- Construction Manual, Chapter 3
- Coordination. Includes contact with Local agencies and others. Also includes management of the COZEEP agreement/contract.

Guidance

- Construction Manual, Chapters 1 & 2
- Bridge Construction Records and Procedures, Section 8
- Pile Mitigation. Office work involved if a pile is determined to be defective. Elements of support from Geotechnical Services that are field related are part of Field Administration Work for Structures.

Guidance

- Foundation Manual Chapter 9
- Technical Support. Technical Support for the construction engineering staff provided by personnel other than construction staff, providing support to structure construction engineering activities. Includes Design, Traffic, Hydraulics, Materials, DES/Structure Design, DES/Geotechnical Services, Environmental, Landscape Architect, Right of Way Engineering, Maintenance and other specialty staff. Functional support may include attendance at pre-work conferences, resource identification and staking, on-site construction support and RE pending file review.

275.20 Field Administration Work for Structures

All work related to the field tasks involved in contract administration of structures work.

Sub-Tasks

- Photographed Jobsite and Contractors' Operations
- Line and Grade Control. Using the field survey stakes and notes from Surveys, the construction field engineering staff determines and lays out all additional lines and grades necessary to construct/ erect/ place a particular structure (or portion of a structure).

Guidance

- Survey Manual
- Bridge Deck Construction
- Bridge Construction Records & Procedures
- Inspection of Structures Work for Compliance and Incorporation. Includes inspection and monitoring of the contractor's Storm Water Pollution Protection Plan (SWPPP) facilities.

Guidance

- Bridge Construction Records and Procedures, Sections 100, 105, 112, 115, 124, 125, 130, 132, 135, 140, 145, 155, 160-162, 165, 168, 170
- Storm Water Pollution Prevention Plan (SWPPP) Manual
- Water Pollution Control Program (WPCP) Manual
- Construction Site Best Management Practices (BMP) Manual
- Inspection of Superstructure work for Compliance and Incorporation. Involves inspection and monitoring of superstructure work for contract compliance.
- Inspection of Substructure work for Compliance for Compliance and Incorporation. Involves inspection and monitoring of substructure work for contract compliance.
- Structures Construction Material Sampling and Testing. Limited to work involved in the material sampling and testing duties of the Structure Representative and their assistant(s). Material sampling and testing activities performed by the Office of Materials Engineering and Testing Services is performed under 270.35.
- Load Testing and Cast-in-Drilled-Hole Inspection. Work involved in providing services for structure construction projects by the Foundation Testing Branch, Office of Geotechnical Support, Geotechnical Services.

Guidance

- Bridge Construction Records and Procedures 130
- Foundation Manual Chapter 4 and 8
- California Test Methods
- Surveys Manual
- Prestress Manual
- Bridge Deck Construction

- Pile Mitigation. Fieldwork involved if a pile is determined to be defective. Elements of support from Geotechnical Services and DES/Structure Design that are office-related are part of Office Administration Work for Structures.

Guidance

- Foundation Manual Chapter 9
- Daily Report of Contract Operations

Guidance

- Construction Manual Chapters 1 & 3
- Bridge Construction Records and Procedures, Section 3
- Punch List

Guidance

- Construction Manual Supplement for Local Agency Resident Engineers

275.30 Contract Change Order Inspection for Structures Work

All additional work involved in the inspection of structure's items created or altered by a contract change order.

Guidance

- Bridge Construction Records and Procedures, Section 7

275.40 Safety Tasks for Structures Work

Federal and State laws have established occupational safety and health standards with which all employers must comply. These laws require an employer to provide a safe place of employment that is reasonably free from danger to life or health.

Sub-Tasks

- Contractors' Operations Relative to Safety Requirements Documentation.

Guidance

- Bridge Construction Records and Procedures, Section 14
- Safety Diaries.

Guidance

- Construction Manual, Chapter 2
- Bridge Construction Records and Procedures, Section 14
- Project Safety Program Statement

Guidance

- Construction Manual, Chapter 2
- Code of Safe Practices.

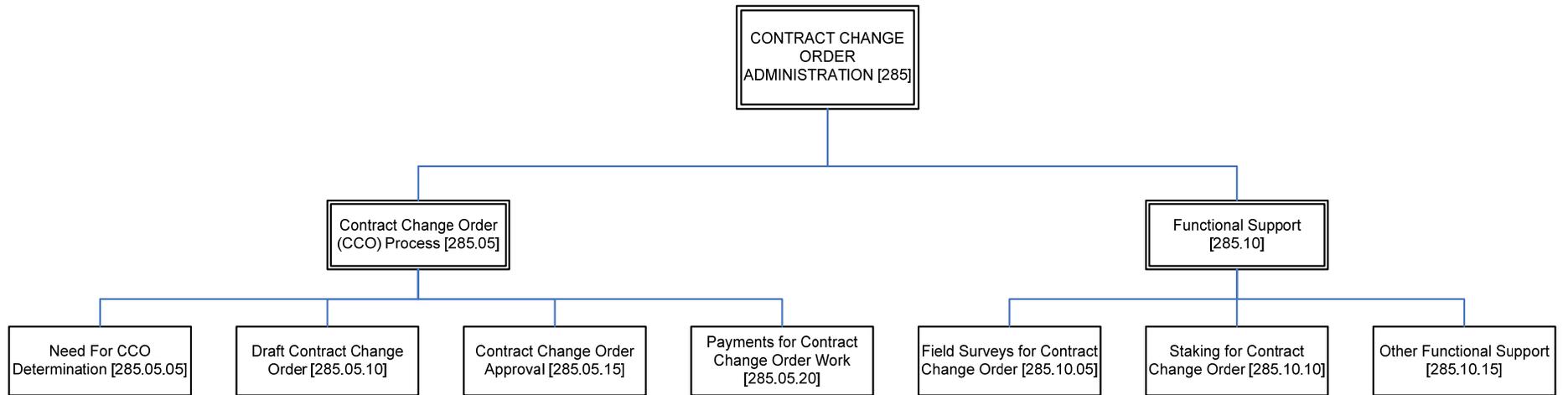
Guidance

- Construction Manual, Chapter 2
- Tailgate Safety Meetings.

Guidance

- Construction Manual, Chapter 2
- Bridge Construction Records and Procedures, Section 14

285 Contract Change Order Administration



285 Contract Change Order Administration

Work involved in preparation and administration of contract change orders.

285.05 Contract Change Order (CCO) Process

Includes making the determination of need for a CCO, assessing potential impacts on the environment, assessing conformity with permit requirements, preparing the supporting information, any design, and the written CCO and Transmittal Memo. Also included is the reviewing and processing of the CCO by the construction engineering and office staff, the Environmental-Construction liaison and by staff at the District Office and at Structures Construction and Sacramento HQ office. The field inspection of CCO work and the writing of CCO diaries are to be included in WBS element 270.30, "Inspect Contract Item Work". This activity, WBS 285.05, includes CCOs required after resolution of any claims.

End Product(s)

- Approved CCOs and processing payments

285.05.05 Need For CCO Determination

Effort involved in making the determination of need for a CCO, doing field and plan review, discussing the issues with the Contractor, and/ or the District Construction Engineer, Structure Construction Area Supervisor, Structures Construction Sacramento HQ, and the District or Structures Design Engineers, Architects, & Geotechnical personnel.

Guidance

- Construction Manual Chapter 3,4,& 5
- Prevailing State Wage Rates

285.05.10 Draft Contract Change Order

Work by construction staff involved in calculating and designing CCO, compiling, delineation, and writing CCO and Transmittal Memo. Effort by other functional areas should be accounted for under 285.10.

Guidance

- Construction Manual Chapters 3, 4 & 5
- Prevailing State Wage Rates

285.05.15 Contract Change Order Approval

Guidance

- Construction Manual Chapter 3, 4, & 5
- Prevailing State Wage Rates

285.05.20 Payments for Contract Change Order Work

Work involved in reviewing and approving Contractor's Extra Work Bills, and compiling and documenting information for adjustment payments. Completing all documentation for CCO payments.

Guidance

- Construction Manual Chapter 5
- Prevailing State Wage Rates

285.10 Functional Support

Work involved in providing functional support (other than the construction engineering or office field staff, or project design engineer staff) to the Resident Engineer/ Structure Rep.

End Product(s)

- Necessary support information to complete the written CCO, the design, and any CCO drawings

285.10.05 Field Surveys for Contract Change Order

This is work by the Surveys and R/W Engineering functional units to provide survey data, including mapping, required for CCO(s), and includes revisions to CCO(s). The construction field engineers' efforts are a part of this activity only if they are performing field "survey" work. If the construction field engineers are determining lines and grades control for a CCO, their effort should be part of activity 270.20.20, "Determine Lines and Grades Control".

285.10.10 Staking for Contract Change Order

Includes re-staking for CCO.

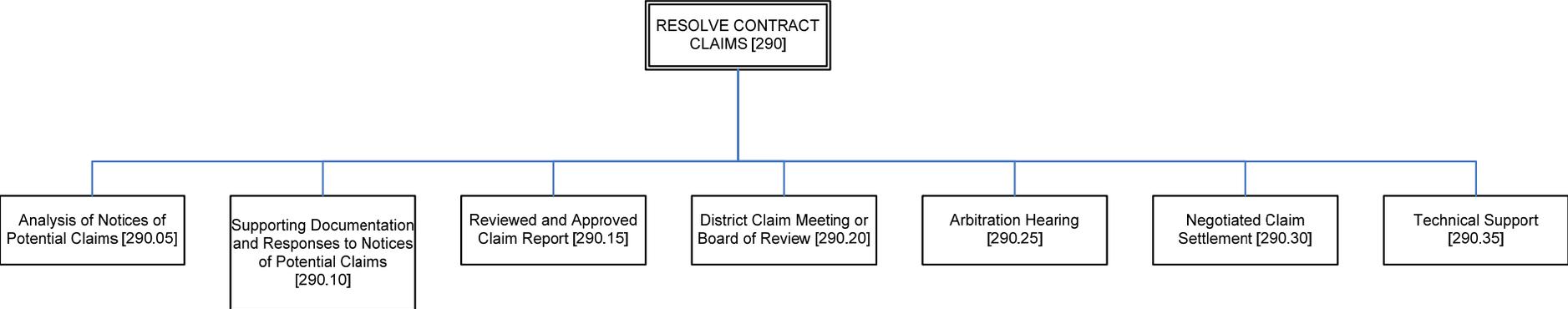
285.10.15 Other Functional Support

Technical Support to the construction engineering staff provided by personnel other than construction staff, providing support for the CCO. Includes Design, Traffic, Hydraulics, Materials, DES/Structure Design, DES/Geotechnical Services, Environmental, Landscape Architect, Maintenance, and other specialty staff.

Guidance

- Construction Manual Chapter 5
- Prevailing State Wage Rates
- [Standard Environmental Reference \(SER\)](#)

290 Resolve Contract Claims



WBS 290

290 Resolve Contract Claims

Work involved in the documentation and resolution of contract claims.

290.05 Analysis of Notices of Potential Claims

Work involved in reviewing and determining accuracy and validity of Notice of Potential Claims (NOPC).

Guidance

- Construction Manual Chapter 5
- Prevailing State Wage Rates

End Product(s)

- Determined response to the NOPC

290.10 Supporting Documentation and Responses to Notices of Potential Claims

Work involved in providing all backup data and copies of reports for the NOPC and responding to the Contractor. This activity also includes organizing and placing information in the project files.

Guidance

- Construction Manual Chapter 3 & 5
- Prevailing State Wage Rates

End Product(s)

- Written response to claim. Also, a project file will exist for each NOPC that contains the backup data, the NOPC, and the State's response. A positive response will result in a Contract Change Order (CCO) being prepared (see WBS 285).

290.15 Reviewed and Approved Claim Report

Work at the completion of the project due to claims submitted by the Contractor regarding disputes during the course of construction for which the Contractor submitted written notices or protests that were rejected by the Resident Engineer while construction was still in progress. Work in compiling all information for the claim report, requesting additional information from the Contractor when required.

Guidance

- Construction Manual Chapter 5
- Prevailing State Wage Rates

End Product(s)

- Either 1 or 2 below:
 - 1) Claim approved by Resident Engineer with letter to Contractor stating the resolution of claim, and that CCO will be written to cover work noted in claim (writing, processing, and administering the CCO would be charged to one of the level 6 or level 7 activities under WBS. 285 "Contract Change Order Administration").

- 2) Claim rejected by Resident Engineer with letter to Contractor stating rejection and stating the Contractor's option if he wanted to pursue the claim further (i.e., District Claim Meeting/ Board of Review).

290.20 District Claim Meeting or Board of Review

Work involved in preparing, conducting, and documenting the District Claim Meeting or Board of Review. This work would be as a result of the Contractor pursuing a claim further after the Resident Engineer has rejected it after completion of the construction project.

Guidance

- Construction Manual Chapter 5
- Prevailing State Wage Rates

End Product(s)

- Written notice of claim finding

290.25 Arbitration Hearing

Work involved in preparing for, anticipating in and documenting the arbitration hearing. This activity could also include a Resident Engineer's/Structure Rep's work involved in reopening the project phase if required. Includes appearing as an expert witness.

Guidance

- Construction Manual Chapter 5
- Prevailing State Wage Rates

End Product(s)

- Settlement of claim(s) or an arbitration decision.
- Payment, of settlement (or final award) or collection of money from the contractor in accordance with the request for payment memorandum prepared by Legal Division and approved by the Division Chief of the Division of Construction.
- Closure of Project

290.30 Negotiated Claim Settlement

Negotiate claim settlement prior to the District Claim meeting or Board of Review. Includes providing documentation for project files. CCOs required because of settlement should be captured under WBS 285 (CCOs).

Guidance

- Construction Manual Chapter 5
- Prevailing State Wage Rates

End Product(s)

- Settlement of Potential Claim or Claim.

290.35 Technical Support

All work necessary to provide back-up data, information to Claim's staff in their analysis, negotiation, and resolution of construction claims, its settlement and disposition throughout the claims process including the District Claim meeting or Board of Review. Includes providing documentation for project files. Any support given for CCOs required in settlement should be captured under WBS 285 (CCOs). Includes Design, Traffic, Hydraulics, Materials, DES/Structure Design, DES/Geotechnical Services, Environmental, Landscape Architecture, Maintenance and other specialty staff.

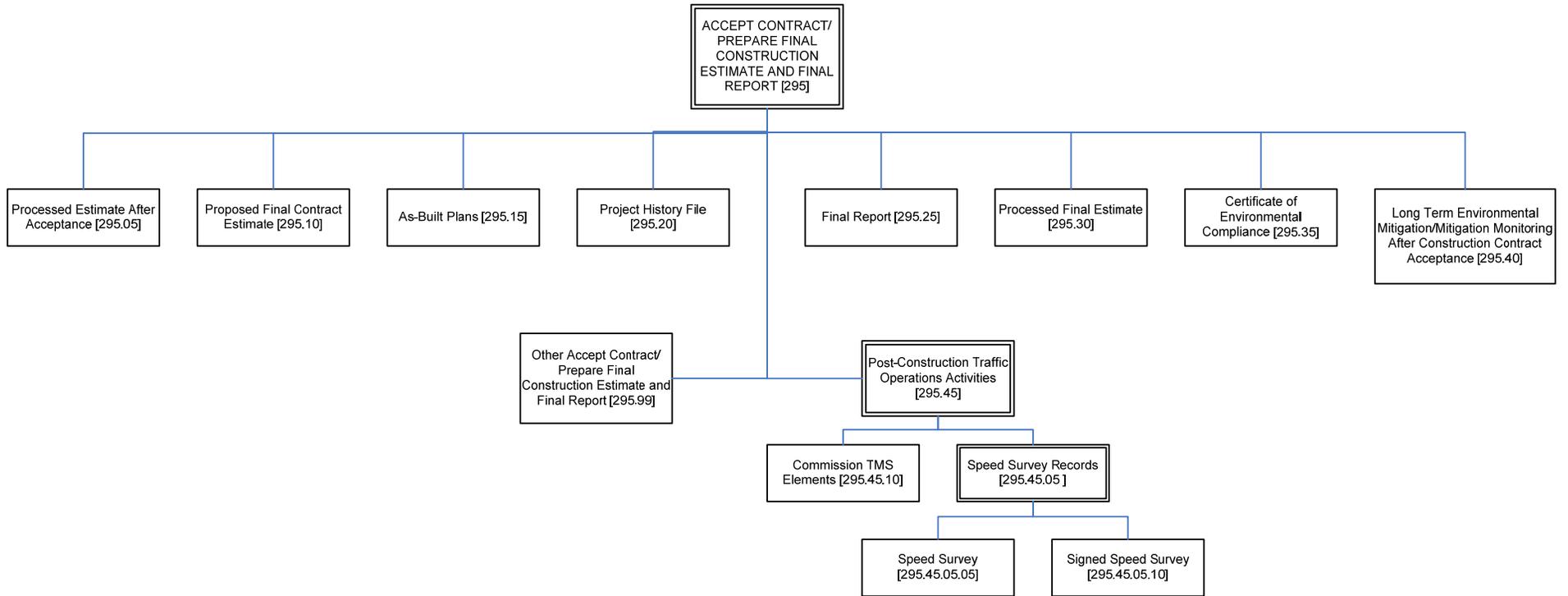
Guidance

- Construction Manual Chapter 5
- Prevailing State Wage Rates
- Surveys Manual
- [Standard Environmental Reference \(SER\)](#)

End Product(s)

- Claim settlement.

295 Accept Contract/ Prepare Final Construction Estimate and Final Report



295 Accept Contract/ Prepare Final Construction Estimate and Final Report

Work involved in the acceptance and final documentation of a construction contract.

295.05 Processed Estimate After Acceptance

The work involved in preparing payment documents for processing the After Acceptance (AA) Estimate (the last "monthly progress" estimate) after the Resident Engineer has recommended acceptance and the District Director has given acceptance. Processing the After Acceptance Estimate includes processing the estimate by District Office staff, the review and approval of the Automated Progress Pay Estimate by the Resident Engineer/ Structure Rep, and the subsequent processing for payment to the Contractor by the District Office staff. This activity also includes preparation of Semi Final Estimates (SF). Preparation and processing of the Proposed Final Estimate (PFE) is in activity 295.10.

Guidance

- Construction Manual Chapters 3 & 5
- Prevailing State Wage Rates

End Product(s)

- The After Acceptance Estimate OR a Semi Final Estimate where there are still unresolved exceptions/claims from the Contractor in response to the Proposed Final Estimate (PFE). It is possible that several Semifinal Estimates will be processed while exceptions/claims are resolved before the "After Claims Final Estimate" (FE) is processed by the District Office staff for payment to the Contractor.

295.10 Proposed Final Contract Estimate

- The work involved in preparation of payment documents and preparing the Proposed Final Estimate (PFE) for processing. The Resident Engineer does the Proposed Final Estimate in writing after construction contract acceptance by the District Director and after the progress Estimate After Acceptance has been processed.
- If the Contractor reviews the Proposed Final Estimate and returns notice to the District Office and Resident Engineer that he accepts the estimate without exceptions, then the District Office processes the Proposed Final Estimate for payment to the Contractor (in this case, the Proposed Final Estimate is also the Final Estimate (FE)).
- If the Contractor reviews the Proposed Final Estimate and accepts the estimate with a following list of exceptions/claims then the work to review those exceptions/claims is included in activity 290.15 "Prepare, Review, and Approve Claim Report". If there are any exceptions/claims, then the work to
- Prepare a Semi Final Estimate (SF) and forward it to the District Office to process for payment is included in this activity (295.05).
- Preparing any additional Semifinal Estimates after reaching negotiated settlements or receiving required paperwork for any particular exceptions/claims (but with 1 or more claims still outstanding) will be work included in this activity 295.05.

Guidance

- Construction Manual Chapters 3
- Prevailing State Wage Rates
- Standard Specifications, Section 9-1.07

Sub-Tasks

- Perform additional (supplemental) survey/mapping work needed to determine/verify the PFE.

End Product(s)

- Proposed Final Estimate (effectively the Final Estimate) where no claims have been submitted.

295.15 As-Built Plans

Includes preparation work involves transferring all as-built changes, or required as-built information onto the set of plans dedicated as the red-line mark-up set of As-Built Plans. This activity also involves putting together the marked up set of As-Built Plans and forwarding all of the District roadway As-Built to the District Office and all of the structure plans to Structures HQ for review. Also included in this activity is work by the design section structural technicians to transfer the red-line As-Built plan mark-ups to the original full size reproducible plan sheets (or CADD file) and forwarding a reproducible set of plans with the transferred As-Built changes to the office 'As-Built' Section for filing, scanning, and microfilming. Includes transmitting As-Built plans to local agency for sections of the state highway relinquished.

Guidance

- Construction Manual Chapter 5
- Prevailing State Wage Rates
- [Project Development Procedures Manual \(PDPM\), Chapter 15, Section 3](#)
- CADD Users Manual
- Plans Preparation Manual

Sub-task:

- Ensure compliance with Records Retention Schedule for the Division of Construction.

End Product(s)

- As-Built Microfilms for complete set of project plans (roadway + structures) in Headquarters or District Office 'As-Built' Section.
- Structure As-Built plans scanned into database.
- As-Built microfilms for any Overhead or Underpass forwarded to railroad.
- Roadway As-Built plans archived in District.
- Roadway As-Built plans transmitted to local agency for sections of the State highway relinquished.

295.20 Project History File

The work involved in the preparation of the construction project files (including information from the District RE file, the District Project Files and the Structures R.E. Pending File). This activity includes the effort in recording & archive storage of project records. Includes transmitting Project History File(s) to local agency for sections of the state highway relinquished. Also, included in this activity, the Structure Rep forwards copies of all Pile Records to the Sacramento Structure Construction Office for recording.

Guidance

- Construction Manual Chapter 5
- Prevailing State Wage Rates

- [Project Development Procedures Manual \(PDPM\), Chapter 7](#)
- Project Development Procedures Manual Chapter 21

Sub-task:

- Ensure compliance with Records Retention Schedules for the Divisions of Design, Project Management, and Construction.

End Product(s)

- All records required by the District Office to be stored after construction project completion are bound as a Project File and stored in the District Office.
- Project History Files scanned and uploaded by District into HQ DRS database.
- Roadway As-Built plans archived in District.
- Project History Files transmitted to local agency for sections of the State highway relinquished.

295.25 Final Report

A Report of Completion for each structure is to be prepared by the Structure Rep for forwarding to the Office of Structure Construction. The Joint Seal Calculations and all Paint Records are also to be forwarded by the Structure Rep & their staff to the Office of Structure Construction.

Guidance

- Bridge Construction Records and Procedures
- Prevailing State Wage Rates

End Product(s)

- A Report of Completion for each structure with Joint Seal Calculations (when applicable) and Paint Records (when applicable) recorded and scanned into storage by the Office of Structure Maintenance & Investigations in Sacramento.
- A District roadway Report of Completion recorded and stored in the District Office.

295.30 Processed Final Estimate

The work involved in the preparation of the Final Estimate. This estimate is prepared and processed either after all claims have been negotiated and resolved (& after any necessary CCO's are processed to resolve claims (see sub-activities for activity 285 'Prepare and Administer')) CCO's between the Contractor and the Resident/Structure Rep (without the need for a District Claim Meeting or Board of Review) or after a decision on the claim is made after a District Claim Meeting or Board of Review. The processing the After Claims Estimate does not wait for arbitration if the Contractor decides to pursue a claim to that level.

Guidance

- Construction Manual Chapter 3
- Prevailing State Wage Rates
- Standard Specifications, Section 9-1.07

End Product(s)

- Final payment by the State to Construction Contractor for the entire sum so found to be due (the only exception being if the Contractor were to pursue a claim to arbitration and have that arbitration concluded with an award of additional payment). The Project Contract is closed to all further charges (in the event that the Contractor pursues a claim to arbitration, the Project can be reopened for charging).

295.35 Certificate of Environmental Compliance

- The purpose of the certificate is to document the Department's environmental compliance efforts for all measures specified in final environmental (or other project) documents and to inform all project stakeholders (including regulatory agencies) as to the outcome of the mitigation efforts. The information contained in this Certificate should be based on the Environmental Commitments Record (ECR), or similarly summary, initiated during PA&ED (180.15.20) and updated at WBS 150.40.50, 165.10.75, 205.10.60, 235.40, 255.15, 255.40, 260.75, 270.70, 295.40.
- The ECR is also used for Environmental Certification at RTL (260.15.15) and for input into the RE Pending File (255.40). This Certificate, along with the updated ECR, should be filed in the Uniform File System and a copy retained in the project history file as evidence that the Department has met its obligation to fully document environmental compliance efforts for projects.
- The Resident Engineer, Project Manager, and Environmental Branch Chief (Environmental-Construction Liaison) all sign the Certificate. The Certificate should contain, as a minimum, the following information summaries:
 - Brief project descriptions including county, route, PM, and Project Identifier.
 - Impacts
 - Mitigation associated with each impact
 - Mitigation completed according to agreements and the agency with which that agreement was reached and the date it was completed.
 - Mitigation not completed according to agreements, why it was not so accomplished, what was done instead, and when that was completed.
 - Updated Environmental Commitments Records (or similar, e.g., Mitigation Monitoring and Reporting Record) to cover any on-going future commitments (copies must be provided to the impacted units (e.g., Maintenance).

Guidance

- [Standard Environmental Reference](#)
- [DEA Environmental Commitments Record Memo 1/05](#)
- [DEA Memo dated June 21, 2004, and HQOE Memo dated May 3, 2004, regarding Environmental Certification at RTL](#)

295.40 Long Term Environmental Mitigation/Mitigation Monitoring After Construction Contract Acceptance

Work involved in the mitigation or monitoring of mitigation after Construction Contract Acceptance over an extended period to ensure compliance with resource and regulatory agency permits and agreements. Includes work beyond the timeframe and/or scope of activity 235. Work done after Construction Contract Award, but prior Construction Contract Acceptance is to re resources/charged to WBS Element 270.80. The updated Environmental Commitments Records should be filed in the Uniform File System and a copy retained in the project history file as evidence that the Department has met its obligation to fully document environmental compliance efforts for projects.

Guidance

- [Standard Environmental Reference \(SER\)](#)

Sub-Tasks

- Field review of site
- Develop and submit performance reports to the regulatory agency

- Perform remedial action to correct deficiencies
- Update Environmental Commitments Record at the completion of mitigation (see WBS 270.70 and 295.35)

End Product(s)

- Final Environmental Commitments Records

295.45 Post-Construction Traffic Operations Activities

Work that is normally performed after construction of the project is complete and accepted by the Resident Engineer. Work involved is normally performing speed surveys, update speed zones, process signing changes, put into service traffic monitoring system (TMS) elements.

295.45.05 Speed Survey Records

Effort includes field and office work required to be in compliance with the California MUTCD and the California Vehicle Code.

Products

- Signed Order, Speed Survey, Justification

295.45.05.05 Speed Survey

Includes all speed survey field effort after completion of project construction. This effort includes field work to gather the required information, review and reduction of field data, analysis of the data, preparation of the speed survey determination, update the speed survey mapping, send out letters to appropriate agencies, attendance at public meetings when speed zone changes are proposed and attend any other meetings with local jurisdictions as needed relating to speed zone change. Refer to the California MUTCD, Section 2B.13.

Quality

- Surveys taken during free flow conditions with dry pavement

295.45.05.10 Signed Speed Survey

Preparation of Speed Survey and Justification and order reducing or increasing speed zone, distribution of said documents to appropriate agencies. Refer to California MUTCD Section 2B.13 and CVC Section 22352 – Prima Facie Speeds, CVC Section 223455 – Notify Locals and CVC Section 627(a) – Engineering and Traffic Survey (defined).

Products

- Signed Order, Speed Survey, Justification

295.45.10 Commission TMS Elements

Work involving the calibration, configuration and activation of TMS elements which include Ramp Meters (RM), Traffic Monitoring Stations (TMS), Closed Circuit Television Cameras (CCTV), Changeable Message Signs (CMS), Roadside Weather Information Stations (RWIS), Highway Advisory Radios (HAR) and Extinguishable Message Signs (EMS). Work may also include the integration of the TMS elements into the TMC through various communications media.

Quality

- Accurate and timely information fed to the TMC.

Products

- Operating TMS elements.

295.99 Other Accept Contract/ Prepare Final Construction Estimate and Final Report

All other work, during the Accept Contract/ Prepare Final Construction Estimate and Final Report Work efforts, not defined or covered in other 295 elements.

Part III WSG Appendices

Appendix A - List of Changed Elements from WBS 10.1

R10.2 Code	R10.2 Revised Text	R10.1 Code	R10.1 Prior Text	Status
100.05	Includes the management of the PID component from initiation through completion and preparation of an initial plan for the later phases. The services provided include the initiation and planning of the project, and the execution, control, and closeout of the PID component.	100.05	Includes the management of the PID component from initiation through completion. The services provided include the initiation and planning of the project, and the execution, control, and closeout of the PID component.	Text Change
100.05.05	Guidance: Capital Project Work plan Handbook, First Edition, Sept. 2010	100.05.05	Guidance: Project Resource Data Management Guide	Text Change
100.05.05	Sub-Task: Set-up Phase K in AMS Advantage (EFIS)	100.05.05	Sub-Task: Establish expenditure authorization EA for Phase K	Text Change
100.05.10	Develop a plan for later phases	100.05.10	N/A – New Sub-Task	Add
100.05.10	Guidance: Capital Project Work plan Handbook, First Edition, Sept. 2010	100.05.10	Guidance: Project Resource Data Management Guide	Text Change
100.05.10		100.05.10	Guidance: Work Breakdown Structure (WBS), WBS Task Definitions, WBS 100,150	Text Deletion
100.05.15	Guidance: Capital Project Work plan Handbook, First Edition, Sept. 2010	100.05.15	Guidance: Project Resource Data Management Guide	Text Change
100.05.15	Sub-Task: Close PID Component Project Phase	100.05.15	Sub-Task: Close PID Component expenditure authorization (EA)	Text Change
100.05.15	End Products: Close out Project Phase K	100.05.15	End Products: Phase K EA Suspension	Text Change
100.10	Includes the management of the PA&ED component from initiation through completion and updating the plan for later phases. The services provided include the initiation and planning of the project, and the execution, control, and closeout of the PA&ED component.	100.10	Includes the management of the PA&ED component from initiation through completion The services provided include the initiation and planning of the project, and the execution, control, and closeout of the PA&ED component.	Text Change
100.10.05	Guidance: Capital Project Work plan Handbook, First Edition, Sept. 2010	100.10.05	Guidance: Project Resource Data Management Guide	Text Change
100.10.05	Sub – Tasks: Establish Project identifier for the PA&ED component	100.10.05	Sub-Tasks: Establish expenditure authorization EA for the PA&ED component	Text Change
100.10.10	Guidance: Capital Project Work plan Handbook, First Edition, Sept. 2010	100.10.10	Guidance: Project Resource Data Management Guide	Text Change
100.10.10	Sub-Tasks: Update the plan for later phases	100.10.10	N/A – New Sub-Task	Add
100.10.15	Guidance: Capital Project Work plan Handbook, First Edition, Sept. 2010	100.10.15	Guidance: Project Resource Data Management Guide	Text Change
100.10.15	Sub-Tasks: Close PA&ED component Project Phase	100.10.15	Sub- Tasks: Close PA&ED component expenditure authorization EA	Text Change
100.10.15	End Product: Closeout Project Phase “0”		End Product: Phase “0” EA Suspension	Text Change
100.15	Includes the management of the PS&E component from initiation through completion and updating the plan for later phases. The services provided include the initiation and planning of the project, and the execution, control, and closeout of the PS&E component.	100.15	Includes the management of the PS&E component from initiation through completion and updating the plan for later phases. The services provided include the initiation and planning of the project, and the execution, control, and closeout of the PS&E component.	Title Change

R10.2 Code	R10.2 Revised Text	R10.1 Code	R10.1 Prior Text	Status
100.15.05	Guidance: Capital Project Work plan Handbook, First Edition, Sept. 2010	100.15.05	Guidance: Project Resource Data Management Guide	Text Change
100.15.05	Sub-Tasks: Establish Project Identifier for the PS&E phase	100.15.05	Sub-Tasks: Establish expenditure authorization (EA) for the PS&E phase	Text Change
100.15.10	Guidance: Capital Project Work plan Handbook, First Edition, Sept. 2010	100.15.10	Guidance: Project Resource Data Management Guide	Text Change
100.15.10	Sub-Task: Update the plan for later phases	100.15.10	N/A – New Sub-Task	Add
100.15.15	Guidance: Capital Project Work plan Handbook, First Edition, Sept. 2010	100.15.15	Guidance: Project Resource Data Management Guide	Text Change
100.15.15	Sub-Tasks: Close PS&E component expenditure authorization (EA)	100.15.15	Sub-Tasks: Close PS&E Project component	Text Change
100.15.15	End Product: Close out of project Phase ‘1’	100.15.15	End Product: Phase ‘1’ EA suspension	Text Change
100.20.05	Guidance: Capital Project Work plan Handbook, First Edition, Sept. 2010	100.20.05	Guidance: Project Resource Data Management Guide	Text Change
100.20.05	Sub-Tasks: Establish Project Phase for the Construction component	100.20.05	Sub-Tasks: Establish expenditure authorization for the Construction component	Text Change
100.20.10	Guidance: Capital Project Work plan Handbook, First Edition, Sept. 2010	100.20.10	Guidance: Project Resource Data Management Guide	Text Change
100.20.10	Guidance: Abbreviated Task Name, & Unit Number /Cost Center to XPM resource ID	100.20.10	Guidance: Abbreviated Task Name, & Cost Center to XPM resource ID	Text Change
100.20.15	Guidance: Project Development Procedures Manual (PDPM) Chapter 8, Section 6	100.20.15	N/A – New Reference	Add
100.20.15	Guidance: Project Management Directive: PMD’s 001, 003R, & 12.R4	100.20.15	Guidance: Project Management Directive: PMD’s 001, 003R, & 004	Text Change
100.20.15	Guidance: Capital Project Work plan Handbook, First Edition, Sept. 2010	100.20.15	Guidance: Project Resource Data Management Guide	Text Change
100.20.15	Sub-Tasks: Conduct Close-out Meeting with Project Development Team (Including Constructability Review Closeout Meeting)	100.20.15	Sub-Tasks: Conduct Close-out Meeting with Project Development Team	Text Change
100.20.15	End Products: Close out of Project Phases ‘3’ and ‘4’	100.20.15	End Products: Phase 3, 4, 5 & 8 EA suspension	Text Change
100.20.15	Note: the project is complete when the construction component, the right of way component (including excess property disposal), post-construction environmental mitigation and any other necessary actions are finished.	100.20.15	Note: The project is complete when both the construction component and the Right of Way component are complete	Text Change
100.25.15	End Product: Close out of Project Phases ‘2’ and ‘9’	100.25.15	End Products: Phase ‘2’, ‘9’, ‘H’ & ‘R’ EA suspension	Text Change
150.15.30	OSFP Information & Procedures Guide, Section 3-2	150.15.30	OSFP Information & Procedures Guide, Chapter 5	Text Change
150.20.10	Note: This work may be done through the consultant contract process. Consultant selection and administration activities should be captured under WBS 100.10	150.20.10	Note: This work may be done through the consultant contract process. Consultant selection and administration activities should be captured under WBS 100.20	Text Change
150.25.20	Guidance: Project Development Procedures Manual (PDPM) Chapter 4 & 9 All Sections, Chapter 8, Section 6	150.25.20	Guidance: Project Development Procedures Manual (PDPM) Chapter 4 & 9 All Sections	Text Change
160.10.15	End Products: Geometric Plans for Project Alternative	160.10.15	End Products: Second Order Prepare Geometric Plans for Project Alternative	Text Change
160.10.85	Guidance: OSFP Information & Procedures Guide, Section 3-2	160.10.85	Guidance: OSFP Information & Procedures Guide, Chapter 2, 5, & 6	Text Change
160.10.80	Note: This work may be done through the	160.10.80	Note: This work may be done	Text

R10.2 Code	R10.2 Revised Text	R10.1 Code	R10.1 Prior Text	Status
	consultant contract process. Consultant selection and administration activities should be captured under WBS 100.10		through the consultant contract process. Consultant selection and administration activities should be captured under WBS 100.20	Change
160.20.60	Rewrite the 1 st paragraph, Business Practice, and End Products	160.20.60		
160.20.70	End Product: * Paved surface of the travel way.	160.20.70		Add
165.05.15	The Project Development Team select alternative(s) for further study in the Draft Environmental Document and Draft Project Report. The selection process and criteria are documented for use in later stages of the project. Alternatives are based on those developed and documented in the Project Initiation Document, with additions or deletions as required.	165.05.15	The Project Manager, Management and The Project Development Team select alternative(s) for further study in the Draft Environmental Document and Draft Project Report. The selection process and criteria are documented for use in later stages of the project. Alternatives are based on those developed and documented in the Project Initiation Document, with additions or deletions as required.	Text Change
165.10.85	Perform all activities related to one or more Preliminary Site Investigations (PSI) and prepare a technical report documenting study results.		Perform all activities related to one or more Preliminary Site Investigations (PSI), <i>as defined under procedures</i> and prepare a technical report documenting study results.	Text Change
165.10.85	Note: This work may be done through the consultant contract process. Consultant selection and administration activities should be captured under WBS 100.10	165.10.85	Note: This work may be done through the consultant contract process. Consultant selection and administration activities should be captured under WBS 100.20	Text Change
165.20.20.20	All efforts needed to complete a historical and architectural evaluation report for an existing bridge(s).	165.20.20.20		Add
160.20.65	End Product: A Design Software project file and/or CADD drawing file containing existing centerline alignment. May also contain preliminary right of way line locations based on record data and field surveys.	160.20.65	End Product: A Design Software project file and/or CADD drawing file containing preliminary right of way line locations based on record data and field surveys.	Text Change
170.05	This activity includes all work completed during PA&ED in order to: 1) determine what permits may or may not be required; and 2) obtain permits	170.05	This activity includes all work, normally prior to approval of the PR and FED, required in order to determine what permits may be required or may not be required.	Text Change
185.05	Initial activities of project design phase necessary to become familiar with the project purpose and scope. Activities necessary to update project information needed to prepare engineering design reports, perform preliminary design, determine Right of Way requirements	185.05	Initial activities of project design phase necessary to become familiar with the project purpose and scope. Activities necessary to update project information needed to prepare engineering design reports, perform preliminary design, determine Right of Way requirements and perform 30% Constructability Review	Text Change
185.05.05		185.05.05	Sub-Task: 30% Constructability Review	Text Deletion
185.10.65	End Product: A Design Software project file and/or CADD drawing file containing existing centerline alignment. May also contain preliminary right of way line locations based on record data and field surveys.	185.10.65	End Product: A Design Software project file and/or CADD drawing file containing preliminary right of way line locations based on record data and field surveys.	
185.10.70	End Product: * Paved surface of the travel way.	185.10.70		Add

R10.2 Code	R10.2 Revised Text	R10.1 Code	R10.1 Prior Text	Status
185.15.05	End Product: Geometric Approval Drawing, Alignment and Intersection/Interchange Design	185.15.05	End Product: "B" Order and/or First Order Geometric Approval Drawings, First Order or Alignment and Intersection/Interchange Design	Text Change
185.20.25	...Final Report to be completed in 230.05.70.25.	185.20.25	...Final Report to be completed in 230.05.70.20.	Text Change
205.05	This activity includes all work completed during PS&E in order to: 1) determine what permits may or may not be required; and 2) obtain permits	205.05	This activity includes all work required in order to determine what permits may be required or may not be required.	Text Change
205.05	End Product: A listing of the required Permits, Licenses, Agreements, and Certifications (PLACs) required for the project	205.05	End Product: A list of what specific permits are required and from what agency and/or a memo to file of what permits were considered but not pursued and for what reason	Text Change
205.15	All work involved in preparing a Railroad Service Contract, a Railroad Construction and Maintenance Agreement, and Public Utility Commission (PUC) application.	205.15	All work involved in preparing a Railroad Service Contract, a Railroad Construction and Maintenance Agreement, and PUC application.	Text Change
220.05	Business Practice: ...It is often advantageous to perform the land-net survey, in part or in whole, while performing the control survey work for the engineering surveys during the <i>PA&ED</i> phase of the project. When record data search or land-net surveys are performed during the <i>PA&ED</i> phase WBS 160.20.25 and 160.20.30 should be charged.	220.05	Business Practice: ...It is often advantage to perform the land-net survey, in part or in whole, while performing the control survey work for the engineering surveys during the " <i>Q</i> " phase of the project. When record data search or land-net surveys are performed during the " <i>Q</i> " phase WBS 160.20.25 and 160.20.30 should be charged.	Text Change
220.05.05	Perform thorough research to locate all relevant survey and land ownership records required to complete exiting Land-Net field survey (WBS 160.20.35 and/or 220.05) boundary analysis, determination, and delineation (WBS 160.20.35 and/or 220.10). Create the Monument Search Map for use during the Land-Net Survey (WBS 160.20.30 and/or 220.05.10), Refer to Caltrans Surveys Manual, <i>Section 10.5 and 10.7</i>	220.05.05	Thorough research of relevant land and survey records to locate all necessary survey and land ownership records required to complete field survey (WBS 160.20.30 and/or 220.05) and for analysis determination, and delineation of the existing land-net (WBS 160.20.35 and/or 220.10). Create the Monument Search Map for use during the Land-Net Survey (WBS 160.20.30 and/or 220.05.10). Refer to Caltrans Surveys Manual, Section 10.5 (<i>all</i>)	Text Change
220.05.05	End Product: Existing records, Refer to the Caltrans Survey Manual, Section 10.5 (<i>all</i>)	220.05.05	End Product: Required record types and sources for those records can be found in the Caltrans Survey Manual, Section 10.5 (<i>all</i>)	Text Change
220.15.05	Includes the calculation and delineation of all new parcels and sub-parcels using the Land-Net map (WBS 220.10) and the Right of Way Requirements submittal (WBS 185.25).	220.15.05	Using the Land-Net map (WBS 220.10) and the Right of Way Requirements submittal (WBS 185.25) from design, calculate and delineate all new parcels and sub-parcels generated by Project.	Text Change
220.15.05	Quality: The maps produced must meet all requirements as set forth in the Caltrans Plans Preparation Manual, Section 4-5 (<i>all</i>), the Caltrans CADD User Manual Section 2.4.E (<i>all</i>), and the Caltrans Right of Way Manual, Sections 06.04.01 through 06.04.04.	220.15.05	Quality: The maps produced must meet all requirements as set forth in the Caltrans Plans Preparation Manual, Section 4-5 (<i>all</i>), the Caltrans CADD Manual Section 2.4.E (<i>all</i>), and the Caltrans Right of Way Manual, Sections 06.04.01 through 06.04.03.	Text Change

R10.2 Code	R10.2 Revised Text	R10.1 Code	R10.1 Prior Text	Status
220.15.05	<p>End Products:</p> <p>*Appraisal maps, Refer to Caltrans RW Manual, Section 06.04.01 through 06.04.03, the Caltrans Plans Preparation Manual, Section 4-5 (all), and the Project Development Procedures Manual (PDPM), Chapter 14, Section 1 , Article 5</p> <p>*Certificate of Sufficiency (CoS), Refer to the Caltrans RW Manual, Section 06.04.04 and Exhibit 6-EX-9, THE Caltrans Plans Preparation Manual, Section1, Article 5.</p> <p>*Hazardous Material Disclosure Document – Acquisition (HMDD-A), Refer to Caltrans RW Manual, Section 06.04.04 and Exhibit 6 – EX-9, the Project Development Procedures Manual (PDPM), and Chapter 18, Article 4, and Caltrans form ENV-0001.</p>	220.15.05	<p>End Products:</p> <p>*Appraisal maps, Refer to Caltrans RW Manual, Section 06.04.01 through 06.04.03 and <i>Exhibit 6-EX-1 (E)</i>, the Caltrans Plans Preparation Manual, Section 4-5 (all), and the Project Development Procedures Manual (PDPM), Chapter 14, Section 1 , Article 4.</p> <p>*Certificate of Sufficiency (CoS), Refer to the Caltrans RW Manual, Section 06.04.04 and Exhibit 6-EX-9, THE Caltrans Plans Preparation Manual, Section1, Article 4.</p> <p>*Hazardous Substance Disclosure Document (HSDD) Refer to Caltrans RW Manual, Section 06.04.04 and Exhibit 6 –EX-9, the Project Development Procedures Manual (PDPM), and Chapter 18, Article 4, and Caltrans form ENV-0001.</p>	Text Change
220.15.95	<p>End Product:</p> <p>*Cost Estimate Map</p> <p>*Resolution of Necessity</p> <p>*Court Exhibits</p>	220.15.95	N/A: New End Products	Add Text
220.20.05	...Forms RW6-1A through RW6-1Z	220.20.05	... Forms RW6-1A <i>and</i> RW6-1X	Text Change
225.80	Guidance: Project Development Procedures Manual (PDPM) Chapter 28	225.80	Guidance: Project Development Procedures Manual (PDPM) Chapter 14, Section 2 Article 2	Text Change
230.60	Guidance: Project Development Procedures Manual (PDPM), Chapter 8, Sections 6	230.60	N / A: New Text	Add
235.15	Subtask: Develop RAP, which may involve developing task order	235.15	Subtask: Develop RAP, which may involve task order	Text Change
235.20	End Product: Hazardous Waste PS&E	235.20	End Product: PS&E	Text Change
235.30	Note: The HSDD has been replaced with the Hazardous Material Disclosure Document – Acquisition (HMDD-A)	235.30	N/A: New Note	Add
235.30	Hazardous Waste Technical Staff prepare and approve the HMDD-A, including validation of the site investigation finding and cleanup completed by others. If a proposed property acquisition is located outside the boundary of previous hazardous waste studies for the project, additional investigations may be needed before acquisition. If prior studies indicate that a situation exists where some action by the existing owner is required, progress of that action (including tank removal), if any, will be assessed and further recommendation made as needed before the HMDD-A can be approved.	235.30	Hazardous Waste Technical Staff prepare and approve the HSDD including validation of the site investigation finding and cleanup completed by others. If a proposed property acquisition is located outside the boundary of previous hazardous waste studies for the project, additional investigations may be needed before acquisition. If prior studies indicate that a situation exists where some action by the existing owner is required, progress of that action (including tank removal), if any, will be assessed and further recommendation made as needed before the HSDD can be approved.	Text Change
240.55			Add “and hydrologic surveys”	
245.80	Guidance: Project Development Procedures Manual (PDPM) Chapter 28	245.80	Guidance: Project Development Procedures Manual (PDPM) Chapter 14, Section 2, Article 2	Text Change

R10.2 Code	R10.2 Revised Text	R10.1 Code	R10.1 Prior Text	Status
255.05	Guidance: *Plans Preparation Manual, Chapter 1 & 2 *Highway Design Manual (HDM), Chapter 100 Topic 110, Index 110.7 and 110.8 *Project Development Procedures Manual (PDPM), Chapter 14, Section 3, Chapter 8, Section 6	255.05	Guidance: * Drafting and Plans Manual of Instruction, Article 4 – 1.2 * Highway Design Manual (HDM), Chapter 100 Topic 110, Index 110.7 *Plans Specifications, and Estimates Guide, Section 2-3.02 *Project Development Procedures Manual (PDPM), Chapter 14, Section 3, Chapter 8, Section 6	Text Change/ Deletion
255.10	This activity includes all necessary updates as a result of the draft PS&E Circulation or when headquarters Division of Engineering Services Office Engineer (DES – OE) requires resubmittal of the final PS & E package from the district. This includes delineation support	255.10	This activity includes all necessary updates as a result of the draft PS&E Circulation or when headquarters Office of the Office Engineer (O–OE) requires resubmittal of the final PS & E package from the district. This includes delineation support	Text Change
255.10	End Product: Updated set of Plans, specifications and estimate ready for final process review prior to being transmitted to DES - OE	255.10	End Product: Updated set of Plans, specifications and estimate ready for final process review prior to being transmitted to headquarters Office Engineer DES - OE	Text Change
255.15		255.15	Guidance: Plans Specifications, and Estimates Guide, Section 2, 3	Text Deletion
255.15	Guidance: Project Development Procedures Manual (PDPM), Chapter 14, Section 4, Article 2	255.15	Guidance: Project Development Procedures Manual (PDPM), Chapter 14, Section 3, Article 2	Text Change
255.20	This activity includes all the tasks required to complete the process requirements (such as the reproduction, fund request and “Attachment A”/RTL Certification). Also includes District OE effort to ensure the completeness, quality, and consistency of PS&E’s submitted to DES-OE for processing. The DOE verifies that the design is complete, bid-able, and build-able.	255.20	This activity includes all the tasks required to complete the process requirements (such as the reproduction, fund request and “Attachment A”/RTL Certification). Also includes District OE effort to ensure the completeness, quality, and consistency of PS&E’s submitted to the headquarters Office of Office Engineer (O-OE)for processing. The DOE verifies that the design is complete, bid-able, and build-able.	Text Change
255.20	End Product: Final District PS&E Package (Submitted to DES-OE)	255.20	End Product: Final District PS&E Package (Submitted to the Office of Office Engineer)	Text Change
255.20.15	Project Manager prepares funding package	255.20.15	Prepares funding package	Text Change
255.20.15	Guidance: Decision Document – Funding Package (Robert Buckley and Brent Felker, 1/15/2003) as referred to in the Ready to List Guide Section 9	255.20.15	Guidance: Decision Document – Funding Package (Robert Buckley and Brent Felker, 1/15/2003)	Text Change
255.25	Guidance: RTL Guide, Sections 10.8, 10.8.2 and 10.8.5	255.25	N/A: New Guidance	Add
255.30	Guidance: RTL Guide, Sections 10.8, 10.8.4 and 10.8.7	255.30	Guidance: Plans, Specifications, and Estimates Guide, Section 2.3.02P	Text Change
255.40	Guidance: Project Development Procedures Manual (PDPM), Chapter 15, Section 2 and Appendix GG	255.40	Guidance: Project Development Procedures Manual (PDPM), Chapter 15, Section 2	Text Change
255.40		255.40	End Product: Draft contract	Deletion
255.50	Construction Manual Chapter 1-4.02	255.50	Construction Manual Chapter 1-40	Text Change
255.65	Guidance: RTL Guide, Section 1.3.2	255.65	Guidance: Plans, Specifications, and Estimates Guide, Section 2 3.02A	Text Change

R10.2 Code	R10.2 Revised Text	R10.1 Code	R10.1 Prior Text	Status
255.75	Includes all work to prepare an upgraded Right of Way Certification Document from level 3 or 3W to level 1, 2, 3W or a updated Right of Way Certification Document	255.75	Includes all work to prepare an upgraded Right of Way Certification Document from level three to a level one or two or an updated Right of Way Certification Document	Text Change
265.50	The product of this activity is contract bid documents ready for advertising. Work includes setting Disadvantage Veterans Business Enterprise (DVBE) goals, preparation and reproduction of bid documents, validating funds, securing federal funds approval, approving authority to advertise, setting advertising and bid opening dates, listing in the State Contracts Register, and posting advertisements on the Internet	265.50	The product of this activity is contract bid documents ready for advertising. Work includes setting Disadvantage Veterans Business Enterprise (DVBE) goals, preparation and reproduction of bid documents, validating funds, securing federal funds approval, approving authority to advertise, setting advertising and bid opening dates, listing in the State Contracts Register, and posting advertisements on the Internet	Text Change
265.50	Sub-Task: Enter authorized amount into Phase 4 of Project	265.50	Sub-Task: Enter authorized amount into Phase 4 of EA	Text Change
265.65	Subtask: Obtain Project Phase 4 Certification	265.65	Subtask: Obtain Phase 4 EA Certification	Text Change
270.20.05	Guidance: Construction Manual Chapter 5	270.20.05	Guidance: Construction Manual	Text Change
270.10.10			Business Practice: Determination of which WBS element and phase is charged after the project phase 3 is open is determined by district charging practice. Headquarters Office of Land Surveys has no opinion or preference.	Text Deletion
270.15.25They are only set when requested by the Resident Engineer when cuts or fills are greater than <i>10 feet</i> .	270.15.25	They are only set when requested by the Resident Engineer when cuts or fills are greater than <i>10 m</i> .	Text Change
270.20.10	Guidance: Construction Manual, Chapter 1	270.20.10	Guidance: Construction Manual	Text Change
270.20.15	Guidance: Construction Manual, Chapter 3	270.20.15	Guidance: Construction Manual 3, 0	Text Change
270.20.25	Guidance: Construction Manual, Chapter 2, 3, 4	270.20.25	Guidance: Construction Manual 2, 7	Text Change
270.20.30	Guidance: Construction Manual, Chapter 2, 3, 4	270.20.30	Guidance: Construction Manual 6, 19	Text Change
270.20.05	Guidance: Construction Manual, Chapter 5	270.20.05	Guidance: Construction Manual,	Text Change
270.20.35	Guidance: Construction Manual, Chapter 4, 5 & 6	270.20.35	Guidance: Construction Manual,	Text Change
270.20.40	Guidance: Construction Manual, Chapter 3 & 6	270.20.40	Guidance: Construction Manual 2 & 50 and Sections 3, 4, 5	Text Change
270.20.45	Guidance: Construction Manual, Chapter 3, 4, 5 & 7	270.20.45	Guidance: Construction Manual Section 6 , 16	Text Change
270.20.50	Guidance: Construction Manual, Chapter 1, 4 & 5	270.20.50	Guidance: Construction Manual	Text Change
270.25.05	Guidance: Construction Manual Chapter 1	270.25.05	Guidance: Construction Manual 1, 40	Text Change
270.25.10	Guidance: Construction Manual Chapter 1 & 5	270.25.10	Guidance: Construction Manual 3, 1	Text Change
270.25.15	Guidance: Construction Manual Chapter 1 & 5	270.25.15	Guidance: Construction Manual 1, 10, and Section4-1902, 5-003	Text Change
270.25.20	Guidance: Construction Manual Chapter 1 & 5	270.25.20	Guidance: Construction Manual, 3, 2	Text Change

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R10.2 Code	R10.2 Revised Text	R10.1 Code	R10.1 Prior Text	Status
270.25.25	Guidance: Construction Manual Chapter 5	270.25.25	Guidance: Construction Manual 2, 8	Text Change
270.25.30	Guidance: Construction Manual Chapter 1 & 5	270.25.30	Guidance: Construction Manual 3, 2	Text Change
270.25.35	Guidance: Construction Manual Chapter 5 & 8	270.25.35	Guidance: Construction Manual 9, all	Text Change
270.25.40	Guidance: Construction Manual Chapter 3 & 8	270.25.40	Guidance: Construction Manual 2, 8	Text Change
270.25.45	Guidance: Construction Manual Chapter 2	270.25.45	Guidance: Construction Manual 2, 7	Text Change
270.25.50	Guidance: Construction Manual Chapter 1 & 8	270.25.50	Guidance: Construction Manual 9-02, 9-03	Text Change
270.30.05	Guidance: Construction Manual Chapter 2, 4 & 4	270.30.05	Guidance: Construction Manual	Text Change
270.30.10	Guidance: Construction Manual Chapter 2, 3, 4, 5 & 6	270.30.10	Guidance: Construction Manual 6	Text Change
270.30.10	Guidance: Office of Structure Construction's Foundation Manual	270.30.10	Guidance: Building Construction	Text Change
270.30.10	Guidance: Office of Structure Construction's Concrete Technology Manual	270.30.10	Guidance: Concrete Technology	Text Change
270.30.10	Guidance: Bridge Deck Construction Manual	270.30.10	Guidance: Bridge Deck Construction	Text Change
270.30.15	Guidance: Construction Manual Chapter 2, 4 & 5	270.30.15	Guidance: Construction Manual 1, 60	Text Change
270.30.20	Guidance: Construction Manual Chapter 2, 3, 4, 5, & 8	270.30.20	Guidance: Construction Manual 3, 1	Text Change
270.30.25	Guidance: Construction Manual Chapter 3	270.30.25	Guidance: Construction Manual	Text Change
270.35.05	Guidance: Construction Manual Chapter 4	270.35.05	Guidance: Construction Manual 8	Text Change
270.35.10	Guidance: Construction Manual Chapter 4	270.35.10	Guidance: Construction Manual 8, 2	Text Change
270.35.15	Guidance: Construction Manual Chapter 4 & 6	270.35.15	Guidance: Construction Manual 8, 1	Text Change
270.35.20	Guidance: Construction Manual Chapter 4, 5 & 6	270.35.20	Guidance: Construction Manual 8, 2	Text Change
270.40	Guidance: Construction Manual Chapter 3	270.40	Guidance: Construction Manual 1, 60	Text Change
270.45	Guidance: Construction Manual Chapter 3	270.45	Guidance: Construction Manual 2, 7	Text Change
270.55	End Product: Written Recommendation for Contract Acceptance by the District Deputy Director on behalf of the Director.	270.55	End Product: Written Recommendation for Contract Acceptance by the Residence Engineer. The Resident Engineer is also to call, fax, etc. to the District Office and Contractor that same day for timely notification of last working day in the contract.	Text Change
270.55	Guidance: Construction Manual Chapter 3	270.55	Guidance: Construction Manual 2,5	Text Change
270.60	Sub-tasks: Daily Report of Contract Operations	270.60	Sub-tasks: Daily Diary of Contract Operations	Text Change
270.60	Guidance: Construction Manual Chapter 3, 4 & 5	270.60	Guidance: Construction Manual 6, 20	Text Change
275.10	Guidance: Construction Manual Chapter 1 & 3	275.10	Guidance: Construction Manual Chapter 1-105B, Chapter 3 Section 4	Text Change
275.10	Guidance: Construction Manual Chapter 1 & 5	275.10	Guidance: Construction Manual Chapter 1-105B, Chapter 5 Section 1	Text Change
275.10	Guidance: Construction Manual Chapter 5	275.10	Guidance: Construction Manual Chapter 5-003	Text Change

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R10.2 Code	R10.2 Revised Text	R10.1 Code	R10.1 Prior Text	Status
275.10	Guidance: Construction Manual Chapter 1 & 3	275.10	Guidance: Construction Manual Chapter 10105B, Chapter 3 Section 8	Text Change
275.10	Guidance: Construction Manual Chapter 3 & 7	275.10	Guidance: Construction Manual Chapter 3-503, 3-701E and 7-104B	Text Change
275.10	Guidance: Construction Manual Chapter 3	275.10	Guidance: Construction Manual Chapter 3-514	Text Change
275.10	Guidance: Construction Manual Chapter 3 & 8	275.10	Guidance: Construction Manual Chapter 801C91) and Chapter 8	Text Change
275.10	Guidance: Construction Manual Chapter 8	275.10	Guidance: Construction Manual Chapter 8 Section 1	Text Change
275.10	Guidance: Construction Manual Chapter 3	275.10	Guidance: Construction Manual Chapter 3-805	Text Change
275.10	Guidance: Construction Manual Chapter 1 & 2	275.10	Guidance: Construction Manual 1-204 and 2-15A(11)	Text Change
275.20	Guidance: Construction Manual Chapter 1 & 3	275.20	Guidance: Construction Manual 3, 1	Text Change
275.40	Guidance: Construction Manual Chapter 2	275.40	Guidance: Construction Manual Chapter 2 Section 1	Text Change
275.40	Guidance: Construction Manual Chapter 2	275.40	Guidance: Construction Manual Chapter 2 Section 1	Text Change
275.40	Guidance: Construction Manual Chapter 2	275.40	Guidance: Construction Manual Chapter 2-105A	Text Change
275.40	Sub-Task: Tailgate Safety Meetings	275.40	Sub-Task: Safety Meetings	Text Change
275.40	Guidance: Construction Manual Chapter 2	275.40	Guidance: Construction Manual Chapter 2-105B	Text Change
285.05.05	Guidance: Construction Manual Chapter 3,4 & 5	285.05.05	Guidance: Construction Manual 2, 50	Text Change
285.05.10	Guidance: Construction Manual Chapter 3, 4 & 5	285.05.10	Guidance: Construction Manual 2, 50	Text Change
285.05.15	Guidance: Construction Manual Chapter 3, 4 & 5	285.05.15	Guidance: Construction Manual 2, 50	Text Change
285.05.20	Guidance: Construction Manual Chapter 5	285.05.20	Guidance: Construction Manual 2, 50	Text Change
285.10.15	Guidance: Construction Manual Chapter 5	285.10.15	Guidance: Construction Manual	Text Change
290.05	Guidance: Construction Manual Chapter 5	290.05	Guidance: Construction Manual 2, 70	Text Change
290.05	End Product: Determined response to the NOPC	290.05	End Product: Determined response to the claim	Text Change
290.10	Guidance: Construction Manual Chapter 3 & 5	290.10	Guidance: Construction Manual 2, 70	Text Change
290.15	...Work in compiling all information for the claim report, requesting additional information from the Contractor when required.	290.15	...Work in compiling all information for the claim report, requesting additional information from the Contractor when required, and reviewing the claim report.	Text Change
290.15	Guidance: Construction Manual Chapter 5	290.15	Guidance: Construction Manual 2, 70	Text Change
290.20	Guidance: Construction Manual Chapter 5	290.20	Guidance: Construction Manual 2, 70	Text Change
290.25	Work involved in preparing for, anticipating in and documenting the arbitration hearing. This activity could also include a Resident Engineer's/Structure Rep's work involved in reopening the Project if required. Includes appearing as an expert witness	290.25	Work involved in preparing for, anticipating in and documenting the arbitration hearing. This activity could also include a Resident Engineer's/Structure Rep's work involved in reopening the project EA if required. Includes appearing as an expert witness	Text Change
290.25	End Product:	290.25	End Product:	Text

R10.2 Code	R10.2 Revised Text	R10.1 Code	R10.1 Prior Text	Status
	*Settlement of claim(s) or an arbitration decision. *Payment, of settlement (or final award) or collection of money from the contractor in accordance with the request for payment memorandum prepared by Legal Division and approved by the Division Chief of the Division of Construction. * Closure of Project		*An arbitration decision. *Payment, if any, that has been authorized by the arbitration decision is made to the Contractor. * Closure of Project EA	Change
290.30	End Product: Settlement of Potential Claim or Claim	290.30	End Product: Claim settlement or determination to go to Board of Review/District Claim Meeting.	Text Change
290.30	Guidance: Construction Manual Chapter 5	290.30	Guidance: Construction Manual 2, 70	Text Change
290.30	End Product: Settlement of Potential Claim or claim	290.30	End Product: Settlement determination to go to Board of Review/District Claim Meeting.	Text Change
290.35	Guidance: Construction Manual Chapter 5	290.35	Guidance: Construction Manual 2, 70	Text Change
295.05	Guidance: Construction Manual Chapter 3 & 5	295.05	Guidance: Construction Manual 2, 15	Text Change
295.10	Guidance: Construction Manual Chapter 3	295.10	Guidance: Construction Manual 2, 15	Text Change
295.15	Guidance: Construction Manual Chapter 5	295.15	Guidance: Construction Manual 3, 5	Text Change
295.20	Guidance: Construction Manual Chapter 5, Project Development Procedures Manual (PDPM), Chapter 7	295.20	Guidance: Construction Manual 3, 5, Project Development Procedures Manual (PDPM), Chapter 15, Section 3	Text Change
295.25	Work involved in preparing for anticipating in and documenting the arbitration hearing. This activity could also include a Resident Engineer's /Structure Rep's work involved in reopening the project phase if required. Includes appearing as an expert witness.	295.25	Work involved in preparing for anticipating in and documenting the arbitration hearing. This activity could also include a Resident Engineer's /Structure Rep's work involved in reopening the project EA if required. Includes appearing as an expert witness.	Text Change
295.25	Guidance: Bridge Construction Records and Procedures	295.25	Guidance: Construction Manual	Text Change
295.25	End Product: Closure of Project	295.25	End Product: Closure of Project EA	Text Change
295.30	The work involved in the preparation of the Final Estimate. This estimate ...	295.30	The work involved in the preparation of the After Claims Final Estimate. This estimate ...	Text Change
295.30	Guidance: Construction Manual Chapter 3	295.30	Guidance: Construction Manual 2, 15	Text Change
295.30	Final payment by the State to the Construction Contractor for the entire sum so found to be due (the only exception being if the Contractor were to pursue a claim to arbitration and have arbitration conclude with an award of additional payment). The Project Contract is closed to all further charges (in the event that the Contractor pursues a claim to arbitration, the Project can be reopened for charging).	295.30	Final payment by the State to the Construction Contractor for the entire sum so found to be due (the only exception being if the Contractor were to pursue a claim to arbitration and have arbitration conclude with an award of additional payment). The Contract EA closed to all further Charges (in the event that the Contractor pursues a claim to arbitration, the EA be reopened for charging).	Text Change
295.35	Brief project descriptions including county, route, PM and Project Identifier	295.35	Brief project descriptions including county, route, PM and EA.	Text Change

Appendix B - List of Major Work Elements Sorted by Level 4

Note: Includes Level 4 code

PROJECT MANAGEMENT

Capital Outlay Support

0.100 Project Management

PROJECT INITIATION

Capital Outlay Support

1.150 Develop Project Initiation Document (PID)

PERMITS AND ENVIRONMENTAL STUDIES

Capital Outlay Support

2.160 Perform Preliminary Engineering Studies and Draft Project Report
 2.165 Perform Environmental Studies and Prepare Draft Environmental Document
 2.170 Obtain Permits, Agreements, and Route Adoptions During PA&ED Component
 2.175 Circulate Draft Environmental Document and Select Preferred Project Alternative
 2.180 Prepare and Approve Project Report and Final Environmental Document

PLANS, SPECIFICATIONS, AND ESTIMATES

Capital Outlay Support

3.185 Prepare Base Maps and Plan Sheets
 3.205 Obtain Permits and Agreements During PS&E Component
 3.230 Prepare Draft PS&E
 3.235 Mitigate Environmental Impacts and Clean Up Hazardous Waste
 3.240 Draft Structures PS&E
 3.250 Final Structures PS&E Package
 3.255 Circulate, Review, and Prepare Final District PS&E Package
 3.260 Contract Bid Documents "Ready To List"
 3.265 Awarded And Approved Construction Contract

RIGHT OF WAY

Capital Outlay Support

4.195 Right of Way Property Management and Excess Land
 4.200 Utility Relocation
 4.220 Right of Way Engineering
 4.225 Obtain Right of Way Interests for Project Right of Way Certification
 4.245 Post Right of Way Certification Work
 4.300 Final Right of Way Engineering

CONSTRUCTION

Capital Outlay Support

5.270 Construction Engineering And General Contract Administration
 5.275 Construction Engineering and General Contract Administration of Structural Work
 5.285 Contract Change Order Administration
 5.290 Resolve Contract Claims
 5.295 Accept Contract Prepare Final Construction Estimate and Final Report

Appendix C – WBS Level 5 Elements & Lead COS Division

*Note: Do not use this listing as an absolute for all subsequent Level 6,7 and 8 tasks. This Appendix should serve as a general point of reference and in certain circumstances, some variation may exist.

WBS Level 5 Task	Task Description	Lead COS Division*
100	Project Management	Project Management
150	Develop Project Initiation Document (PID)	Transportation Planning
160	Perform Preliminary Engineering Studies and Draft Project Report	Design
165	Perform Environmental Studies and Prepare Draft Environmental Document	Environmental
170	Obtain Permits, Agreements, and Route Adoptions During PA&ED Component	Environmental
175	Circulate Draft Environmental Document and Select Preferred Project Alternative	Environmental
180	Prepare and Approve Project Report and Final Environmental Document	Design, Environmental
185	Prepare Base Maps and Plan Sheets	Design
195	Right of Way Property Management and Excess Land	Right of Way
200	Utility Relocation	Right of Way
205	Obtain Permits and Agreements During PS&E Component	Design, Environmental
220	Right of Way Engineering	Surveys
225	Obtain Right of Way Interests for Project Right of Way Certification	Right of Way
230	Prepare Draft PS&E	Design
235	Mitigate Environmental Impacts and Clean Up Hazardous Waste	Environmental
240	Draft Structures PS&E	Engineering Services
245	Post Right of Way Certification Work	Right of Way
250	Final Structures PS&E Package	Engineering Services
255	Circulate, Review, and Prepare Final District PS&E Package	Design, Engineering Services, District - Office Engineer
260	Contract Bid Documents "Ready To List"	HQ - Office Engineer
265	Awarded And Approved Construction Contract	HQ - Office Engineer
270	Construction Engineering And General Contract Administration	Construction
275	Construction Engineering and General Contract Administration of Structural Work	Construction
285	Contract Change Order Administration	Construction
290	Resolve Contract Claims	Construction
295	Accept Contract Prepare Final Construction Estimate and Final Report	Construction
300	Final Perform Right of Way Engineering Activities	Surveys

Appendix D - Complete List of All WBS Elements Showing Proper Timesheet Coding

Due to size and to provide a separate more useable source this portion of document is shown as a stand-alone file. Go to the Caltrans Project Management Website at:

<http://pd.dot.ca.gov/pm/ProjectOffice/WorkplanStandards/StandardsHome.asp>

OR the Internet Website at:

<http://www.dot.ca.gov/hq/projmgmt/guidance.htm>

If you have any questions or need assistance, contact Said Ismail either by phone (916) 654-3989 or Email at: Said_Ismail@dot.ca.gov

Appendix E – Listing of all WBS Elements

Formerly this Appendix listed all Cost Centers associated with the corresponding task level. As of the release of this publications Cost Centers have been eliminated. A crosswalk with all Cost Centers and Unit numbers can be found at:

<http://onramp.dot.ca.gov/hq/projmgmt/index.jsp?pg=29>

WBS	WBS Name
100	Perform Project Management
100.05	Project Management - PID Component
100.05.05	Project Initiation and Planning
100.05.10	PID Component Execution and Control
100.05.15	PID Component Close Out
100.05.20	Project Shelving (PID)
100.05.25	Project Unshelving (PID)
100.05.35	Executed Cooperative Agreement for PID Process
100.05.99	Other Project Management PID Products
100.10	Project Management - PA & ED Component
100.10.05	PA&ED Component Initiation and Planning
100.10.10	PA&ED Component Execution and Control
100.10.15	PA&ED Component Close Out
100.10.20	Project Shelving (PA&ED)
100.10.25	Project Unshelving (PA&ED)
100.10.30	Updated Administrative Record during PA&ED
100.10.35	Executed Cooperative Agreement for PA&ED Process
100.10.99	Other Project Management PA&ED Products
100.15	Project Management - PS&E Component
100.15.05	PS&E Component Initiation and Planning
100.15.10	PS&E Component Execution and Control
100.15.15	PS&E Component Close Out
100.15.20	Project Shelving (PS&E)
100.15.25	Project Unshelving (PS&E)
100.15.30	Updated Administrative Record during PS&E
100.15.35	Executed Cooperative Agreement for PS&E Process
100.15.99	Other Project Management PS&E Products
100.20	Project Management - Construction Component
100.20.05	Construction Component Initiation and Planning
100.20.10	Construction Component Execution and Control
100.20.15	Construction Component Close Out
100.20.20	Project Shelving (Construction)
100.20.25	Project Unshelving (Construction)
100.20.30	Updated Administrative Record during Construction
100.20.35	Executed Cooperative Agreement for Construction Process
100.20.99	Other Project Management Construction Products
100.25	Project Management – Right of Way Component
100.25.05	Right of Way Component Initiation and Planning
100.25.10	Right of Way Component Execution and Control
100.25.15	Right of Way Component Close Out
100.25.20	Project Shelving (Right of Way)
100.25.25	Project Unshelving (Right of Way)
100.25.30	Updated Administrative Record during Right of Way
100.25.35	Executed Cooperative Agreement for R/W Process
100.25.50	Executed Cooperative Agreement for R/W Relinquishment
100.25.99	Other Project Management R/W Products
150	Develop Project Initiation Document (PID)
150.05	Transportation Problem Definition and Site Assessment
150.05.05	Review of Existing Reports Studies and Mapping
150.05.10	Geological Hazards Review
150.05.15	Utility Search
150.05.20	Environmental Constraints Identification
150.05.25	Traffic Forecasts/Modeling

WBS	WBS Name
150.05.30	Surveys and Maps for PID
150.05.30.05	Regular Surveys and Maps for PID
150.05.30.10	Accelerated Engineering Surveys
150.05.35	Problem Definition
150.05.45	As-Built Centerline and Existing Right of Way
150.05.99	Other Definition And Assessment Products
150.10	Initial Alternatives Development
150.10.05	Public / Local Agency Input
150.10.10	Value Analysis
150.10.15	Concept Alternatives Development
150.10.99	Other Initial Alternative Development Products
150.15	Alternatives Analysis
150.15.05	Right of Way Data Sheets
150.15.10	Utility Relocation Requirements Assessment
150.15.15	Railroad Involvement Determination
150.15.20	District Preliminary Geotechnical Report (DPGR)
150.15.25	Preliminary Materials Report
150.15.30	Structures Advance Planning Study (APS)
150.15.35	Multimodal Review
150.15.40	Hydraulic Review
150.15.45	Traffic Capacity Analysis
150.15.50	Traffic Studies
150.15.55	Construction Estimates
150.15.60	Preliminary Transportation Management Plan
150.15.99	Other Alternative Analysis Products
150.20	Preliminary Environmental Analysis Report (PEAR)
150.20.05	Initial Noise Study
150.20.10	Hazardous Waste Initial Site Assessment
150.20.15	Scenic Resource and Landscape Architecture Review
150.20.20	Initial NEPA/404 Coordination
150.20.25	Initial Biology Study
150.20.30	Initial Records and Literature Search for Cultural Resources
150.20.40	Initial Community Impact Analysis Land Use and Growth Studies
150.20.45	Initial Air Quality Study
150.20.50	Initial Water Quality Studies
150.20.55	Initial Floodplain Study
150.20.60	Preliminary Environmental Analysis Report Preparation
150.20.65	Initial Paleontology Study
150.20.70	Initial Native American Coordination
150.20.99	Other PEAR Products
150.25	Approved PID (PSR, PSSR, etc.)
150.25.05	Draft PID
150.25.10	Approved Exceptions to Design Standards
150.25.15	Approved Access Modification Request
150.25.20	PID Circulation, Review & Approval
150.25.25	Storm Water Data Report
150.25.30	Draft Project Report as part of a PSSR/PR Programming Document
150.25.30.05	Cost Estimates for Alternatives
150.25.30.10	Fact Sheet for Exceptions to Design Standards
150.25.30.15	Approved Exceptions to Encroachment Policy
150.25.30.20	Draft Project Report as part of a PSSR/PR Programming Document
150.25.30.25	Draft Project Report Circulation Review and Approval
150.25.99	Other PID Products
150.35	Required Permits during Project Initiation Documents Development
150.40	Permits during Project Initiation Documents Development
150.40.05	U.S. Army Corps of Engineers Permit (404)
150.40.10	U.S. Forest Service Permit(s)
150.40.15	U.S. Coast Guard Permit
150.40.20	Department of Fish & Game 1600 Agreement(s)

WBS	WBS Name
150.40.25	Coastal Zone Development Permit
150.40.30	Local Agency Concurrence/Permit
150.40.35	Waste Discharge (NPDES) Permit
150.40.40	U.S. Fish and Wildlife Service Approval
150.4045	Regional Water Quality Control Board 401 Permit
150.40.50	Updated Environmental Commitments Record
150.40.55	NEPA Delegation
150.40.95	Other Permits
150.45	Base Maps and Plan Sheets for Project Initiation Documents
160	Perform Preliminary Engineering Studies and Draft Project Report
160.05	Updated Project Information
160.05.05	Approved PID Review
160.05.10	Geotechnical Information Review
160.05.15	Materials Information Review
160.05.20	Traffic Data and Forecasts Review
160.05.25	Geometrics Review
160.05.30	Project Scope Review
160.05.35	Project Cost Estimate Review
160.05.99	Other Project Information Products
160.10	Engineering Studies
160.10.10	Traffic Forecasts/Modeling
160.10.15	Geometric Plans for Project Alternatives
160.10.20	Value Analysis
160.10.25	Hydraulics/Hydrology Studies
160.10.30	Highway Planting Design Concepts
160.10.35	Traffic Operational Analysis
160.10.40	Updated Right of Way Data Sheet
160.10.45	Utility Locations Determined for Preliminary Engineering
160.10.50	Railroad Study
160.10.55	Multi-modal Study
160.10.60	Park and Ride Study
160.10.65	Right of Way Relinquishment and Vacation Study
160.10.70	Traffic Studies
160.10.75	Updated Materials Information
160.10.80	Updated Geotechnical Information
160.10.85	Structures Advance Planning Study (APS)
160.10.90	High Occupancy Vehicle Report
160.10.95	Updated Preliminary Transportation Management Plan
160.10.99	Other Engineering Studies
160.15	Draft Project Report
160.15.05	Cost Estimates for Alternatives
160.15.10	Fact Sheet for Exceptions to Design Standards
160.15.15	Approved Exceptions to Encroachment Policy
160.15.20	Draft Project Report
160.15.25	Draft Project Report Circulation Review and Approval
160.20	Engineering and Land Net Surveys
160.20.25	Existing Records
160.20.30	Land Net Surveys
160.20.35	Land Net Map
160.20.40	Right of Way Engineering Products
160.20.50	Control Surveys
160.20.55	Photogrammetric Maps and Products
160.20.60	Engineering Surveys
160.20.65	As-Built Centerline Surveys
160.20.70	Pavement Surveys
160.30	Environmental Study Request (ESR)
160.30.05	Maps for ESR
160.30.10	Surveys and Mapping for Environmental Studies
160.30.15	Property Access Rights for Environmental/Engineering Studies
160.40	NEPA Delegation
160.45	Base Maps and Plan Sheets for Project Initiation Documents

WBS	WBS Name
165	Perform Environmental Studies and Prepare Draft Environmental Document
165.05	Environmental Scoping of Alternatives Identification for Study in PID
165.05.05	Project Information Review
165.05.10	Public and Agency Scoping Process
165.05.15	Alternatives for Further Study
165.10	General Environmental Studies
165.10.15	Community Impact Analysis Land Use and Growth Studies
165.10.20	Visual Impact Assessment and Scenic Resource Evaluation
165.10.25	Noise Study
165.10.30	Air Quality Study
165.10.35	Water Quality Studies
165.10.40	Energy Studies
165.10.45	Summary of Geotechnical Report
165.10.55	Draft Right of Way Relocation Impact Document
165.10.60	Location Hydraulic and Floodplain Study Report
165.10.65	Paleontology Study
165.10.70	Wild and Scenic Rivers Coordination
165.10.75	Environmental Commitments Record
165.10.80	Hazardous Waste Initial Site Assessments/Investigations
165.10.85	Hazardous Waste Preliminary Site Investigations
165.15	Biological Studies
165.15.05	Biological Assessment
165.15.10	Wetlands Study
165.15.15	Resource Agency Permit Related Coordination
165.15.20	Natural Environment Study (NES) Report
165.15.99	Other Biological Studies
165.20	Cultural Resource Studies
165.20.05	Archaeological Survey
165.20.05.05	Area Of Potential Effects/Study Area Map
165.20.05.10	Native American Consultation
165.20.05.15	Records and Literature Search
165.20.05.20	Field Survey
165.20.05.25	Archaeological Survey Report (ASR)
165.20.05.99	Other Archaeological Survey Products
165.20.10	Extended Phase I Archaeological Studies
165.20.10.05	Native American Consultation
165.20.10.10	Extended Phase 1 Proposal
165.20.10.15	Extended Phase 1 Field Investigation
165.20.10.20	Extended Phase 1 Materials and Analysis
165.20.10.25	Extended Phase 1 Report
165.20.10.99	Other Phase I Archaeological Study Products
165.20.15	Phase II Archaeological Studies
165.20.15.05	Native American Consultation
165.20.15.10	Phase II Proposal
165.20.15.15	Phase II Field Investigation
165.20.15.20	Phase II Materials Analysis
165.20.15.25	Phase II Report
165.20.15.99	Other Phase II Archaeological Study Products
165.20.20	Historical and Architectural Resource Studies
165.20.20.05	Preliminary Area Of Potential Effects /Study Area Maps for Architecture
165.20.20.10	Historic Resources Evaluation Report - Archaeology
165.20.20.15	Historic Resource Evaluation Report- Architecture (HRER)
165.20.20.20	Bridge Evaluation
165.20.20.99	Other Historical And Architectural Resource Study Products
165.20.25	Cultural Resources Compliance Consultation Documents
165.20.25.05	Final Area Of Potential Effects /Study Area Maps
165.20.25.10	PRC 5024.5 Consultation
165.20.25.15	Historic Property Survey Report/Historic Resources Compliance Report

WBS	WBS Name
165.20.25.20	Finding of Effect (FOE)
165.20.25.25	Archaeological Data Recovery Plan/Treatment Plan
165.20.25.30	Memorandum of Agreement (MOA)
165.20.25.99	Other Cultural Resources Compliance Consultation Products
165.25	Draft Environmental Document
165.25.05	Draft Environmental Document Analysis
165.25.10	Section 4(f) Evaluation
165.25.15	Categorical Exemption / Categorical Exclusion (CE) Determination
165.25.20	Environmental Quality Control and Other Reviews
165.25.25	Approval to Circulate Resolution
165.25.30	Environmental Coordination
165.25.99	Other Draft Environmental Document Products
165.30	NEPA Delegation
165.45	Required Permits during PA&ED Development
165.50	Permits during PA&ED Development
165.50.05	U.S. Army Corps of Engineers Permit (404)
165.50.10	U.S. Forest Service Permit(s)
165.50.15	U.S. Coast Guard Permit
165.50.20	Department of Fish & Game 1600 Agreement(s)
165.50.25	Coastal Zone Development Permit
165.50.30	Local Agency Concurrence/Permit
165.50.35	Waste Discharge (NPDES) Permit
165.50.45	U.S. Fish and Wildlife Service Approval
165.50.50	Regional Water Quality Control Board 401 Permit
165.50.55	Environmental Commitments Record
165.50.95	Other Permits
170.	Permits, Agreements, and Route Adoptions during PA&ED Component
170.05	Required Permits
170.10	Permits
170.10.05	U.S. Army Corps of Engineers Permit (404)
170.10.10	U.S. Forest Service Permit(s)
170.10.15	U.S. Coast Guard Permit
170.10.20	Department of Fish and Game 1600 Agreement(s)
170.10.25	Coastal Zone Development Permit
170.10.30	Local Agency Concurrence/Permit
170.10.40	Waste Discharge (NPDES) Permit(s)
170.10.45	U.S. Fish and Wildlife Service Approval
170.10.50	Regional Water Quality Control Board 401 Permit
170.10.60	Updated ECR
170.10.95	Other Permits
170.15	Railroad Agreements
170.15.05	Plan Approval
170.15.10	Special Provisions and Insurance Clauses
170.15.15	Service Contract for Railroad Services
170.15.20	Construction and Maintenance Agreement
170.15.25	PUC Exhibits and Application
170.15.99	Other Railroad Agreement Products
170.20	Freeway Agreements
170.20.05	Draft Freeway Agreement
170.20.10	Draft Freeway Agreement Review
170.20.15	Final Freeway Agreement
170.20.20	Executed Freeway Agreement
170.20.99	Other Freeway Agreement Products
170.25	Agreement for Material Sites
170.30	Executed Maintenance Agreement
170.40	Route Adoptions
170.40.05	Route Adoption Map
170.40.10	New Connection Request and Route Adoption CTC Submittal
170.40.15	Route Adoption and Public Road Connection Placed on CTC Agenda

WBS	WBS Name
170.40.99	Other Route Adoption Products
170.45	MOU from Tribal Employment Rights Office (TERO)
170.55	NEPA Delegation
175	Circulate Draft Environmental Document and Select Preferred Project Alternative
175.05	DED Circulation
175.05.05	Master Distribution and Invitation Lists
175.05.10	Notices Regarding Public Hearing and Availability of DED
175.05.15	DED Publication and Circulation
175.05.20	Federal Consistency Determination (Coastal Zone)
175.05.99	Other DED Circulation Products
175.10	Public Hearing
175.10.05	Need for Public Hearing Process
175.10.10	Public Hearing Logistics
175.10.15	Displays for Public Hearing
175.10.20	Second Notices of Public Hearing and Availability of DED
175.10.25	Map Display and Public Hearing Plan
175.10.30	Display Public Hearing Maps
175.10.35	Public Hearing
175.10.40	Record of Public Hearing
175.10.99	Other Public Hearing Products
175.15	Public Comment Responses and Correspondence
175.20	Project Preferred Alternative
175.25	NEPA Delegation
180	Prepare and Approve Project Report and Final Environmental Document
180.05	Project Report
180.05.05	Updated Draft Project Report
180.05.10	Approved Project Report
180.05.15	Updated Storm Water Data Report
180.05.99	Other Project Report Products
180.10	Final Environmental Document
180.10.05	Approved Final Environmental Document
180.10.05.05	Draft Final Environmental Document Review
180.10.05.10	Revised Draft Final Environmental Document
180.10.05.15	Section 4(f) Evaluation
180.10.05.20	Findings
180.10.05.25	Statement of Overriding Considerations
180.10.05.30	CEQA Certification
180.10.05.35	FHWA Approval
180.10.05.40	Section 106 Consultation and MOA
180.10.05.45	Section 7 Consultation
180.10.05.50	Final Section 4(f) Statement
180.10.05.55	Floodplain Only Practicable Alternative Finding
180.10.05.60	Wetlands Only Practicable Alternative Finding
180.10.05.65	Section 404 Compliance
180.10.05.70	Mitigation Measures
180.10.10	Public Distribution Of FED And Respond To Comments
180.10.15	Final Right of Way Relocation Impact Document
180.10.99	Other FED Products
180.15	Completed Environmental Document
180.15.05	Record Of Decision (NEPA)
180.15.10	Notice Of Determination (CEQA)
180.15.20	Environmental Commitments Record
180.15.99	Other Completed Environmental Document Products
180.20	NEPA Delegation
185	Base maps and Plan Sheets for PS&E Development
185.05	Updated Project Information
185.05.05	Project Concept Review
185.05.10	Updated Project Information
185.05.99	Other Updated Project Information Products
185.10	Surveys and Photogrammetric Mapping for Design

WBS	WBS Name
185.10.50	Control Surveys
185.10.55	Photogrammetric Maps and Products
185.10.60	Engineering Surveys
185.10.65	As-Built Centerline Surveys
185.10.70	Pavement Surveys
185.15	Preliminary Design
185.15.05	Roadway and Miscellaneous Design
185.15.10	Proposed Geometrics Review
185.15.15	Requests for Exceptions to Design Standards
185.15.20	Value Analysis
185.15.99	Other Preliminary Design Products
185.20	Engineering Reports
185.20.05	Updated Traffic Data Analysis and Forecasts
185.20.10	Hydrology and Hydraulic Reports
185.20.15	Geotechnical Design Report (GDR)
185.20.20	Pavement Design Report
185.20.25	Materials Report
185.20.30	Soundwall Design Report
185.20.35	Updated Transportation Management Plan For Design Phase
185.20.40	Utility Locations Determined for Design
185.20.99	Other Engineering Report Products
185.25	Right of Way Requirements Determination
185.25.05	Project Review With Affected Agencies
185.25.10	Fee and Easement Requirements Determination
185.25.15	Right of Way Requirements Maps
185.25.20	Final Railroad Involvement Determination
185.25.25	Water Well Abandonment Needs Determination
185.25.30	Utility Conflict Maps
185.30	Structure Site Plans
185.30.10	Site Plans for Bridges and Structures
185.30.15	Site Plans for Retaining Walls and Non-standard Earth Retention Systems
185.30.20	Site Plans for Soundwalls on Retaining Systems or Structures
185.30.25	Site Plans for Pumping Plants
185.30.30	Site Plans for Special-Design Culverts
185.30.99	Other Structure Site Plan Products
185.99	Other Base Map And Plan Sheet Products
195	Right of Way Property Management and Excess Land
195.40	Property Management
195.40.05	Fair Market Rent Determinations (Residential)
195.40.10	Fair Market Rent Determinations (Non-Residential)
195.40.15	Regular Property Management
195.40.20	Property Maintenance and Rehabilitation (Rentable Property)
195.40.25	Property Maintenance and Rehabilitation (Non-Rentable Property)
195.40.30	Hazardous Waste and Hazardous Materials
195.40.35	Transfer of Property to Clearance Status
195.40.99	Other Property Management Products
195.45	Excess Land
195.45.05	Excess Lands Inventory
195.45.10	Excess Land Appraisal and Public Sale Estimate
195.45.15	Government Code Section 54235 Administration
195.45.20	Property Disposal of Units up to \$15,000
195.45.25	Property Disposal of Units Between \$15,001 and \$50,000
195.45.30	Property Disposal of Units over \$50,000
195.45.35	CTC and AAC Coordination
195.45.99	Other Excess Land Products
200	Utility Relocation
200.15	Approved Utility Relocation Plan
200.20	Utility Relocation Package
200.25	Utility Relocation Management
200.30	Utility Close Out

WBS	WBS Name
200.99	Other Utility Relocation Products
205	Permits and Agreements during PS&E Component
205.05	Required Permits
205.10	Permits
205.10.05	U.S. Army Corps of Engineers Permit (404)
205.10.10	U.S. Forest Service Permit(s)
205.10.15	U.S. Coast Guard Permit
205.10.20	Department of Fish and Game 1600 Agreement(s)
205.10.25	Coastal Zone Development Permit
205.10.30	Local Agency Concurrence/Permit
205.10.40	Waste Discharge (NPDES) Permit(s)
205.10.45	U.S. Fish and Wildlife Service Approval
205.10.50	Regional Water Quality Control Board 401 Permit
205.10.60	Updated ECR
205.10.95	Other Permits
205.15	Railroad Agreements
205.15.05	Plan Approval
205.15.10	Special Provisions and Insurance Clauses
205.15.15	Service Contract for Railroad Services
205.15.20	Construction and Maintenance Agreement
205.15.25	PUC Exhibits and Application
205.15.99	Other Railroad Agreement Products
205.25	Agreement for Material Sites
205.30	Executed Maintenance Agreement
205.45	MOU from Tribal Employment Rights Office (TERO)
205.55	NEPA Delegation
220	Perform Right of Way Engineering
220.05	Existing Land Net
220.05.05	Existing Records
220.05.10	Land Net Survey
220.05.25	Monumentation Perpetuation Record of Survey
220.10	Land Net Map
220.15	Right of Way Maps
220.15.05	Appraisal Map
220.15.95	Other Maps
220.20	Acquisition Documents
220.20.05	Deeds
220.20.15	Resolution of Necessity Package
220.25	Documents to Convey Property Rights
220.25.05	Director's Deed Package
220.25.95	Other Deeds and Documents
220.35	Field Located Right of Way
220.35.05	Flagged Right of Way
220.35.10	Staked Right of Way
225	Obtain Right of Way Interests for Project Right of Way Certification
225.50	Parcel and Project Documentation
225.60	Right of Way Appraisals
225.65	Right of Way Acquisition
225.70	Right of Way Relocation Assistance
225.75	Right of Way Clearance
225.80	Right of Way Condemnation
230	Prepare Draft PS&E
230.05	Draft Roadway Plans
230.05.05	Title Sheet
230.05.10	Typical Cross Sections
230.05.15	Key Map and Line Index
230.05.20	Roadway Layouts
230.05.25	Profile and Superelevation Sheets
230.05.30	Construction Details

WBS	WBS Name
230.05.35	Contour Grading Plans
230.05.40	Summary of Quantities Sheets
230.05.45	Noise Barrier Plans
230.05.50	Retaining Wall Plans
230.05.55	Standard Plans Selection
230.05.60	Stage Construction and Detour Plans or Traffic Handling Plans
230.05.65	Water Pollution Control Plans
230.05.70	Engineering Reports
230.05.70.05	Hydrology and Hydraulic Reports
230.05.70.10	Products Required to Ready Site for Subsurface Exploration
230.05.70.15	Geotechnical Design Report (GDR)
230.05.70.20	Pavement Design Report
230.05.70.25	Materials Report
230.05.99	Other Draft Roadway Plan Products
230.10	Draft Highway Planting Plans
230.10.05	Highway Planting Plans
230.10.15	Plant List
230.10.20	Irrigation Plans
230.10.30	Irrigation Quantity Sheets
230.10.99	Other Draft Highway Planting Plan Products
230.15	Draft Traffic Plans
230.15.05	Signing and Pavement Delineation Plans
230.15.10	Construction Area Signs Plans
230.15.15	Traffic Electrical Plans
230.15.99	Other Draft Traffic Plan Products
230.20	Transportation Management Plan
230.25	Draft Utility Plans
230.25.05	New Facility Plans
230.25.10	Utility Relocation Plans
230.25.99	Other Draft Utility Plan Products
230.30	Draft Drainage Plans
230.35	Draft Specifications
230.35.05	Roadway Specifications
230.35.10	Highway Planting Specifications
230.35.15	Traffic Specifications
230.35.20	Electrical Specifications
230.35.25	Utility Specifications
230.35.30	Hydraulic Specifications
230.35.35	Water Pollution Control Specifications
230.35.40	Erosion Control Specifications
230.35.99	Other Draft Specification Products
230.40	Draft PS&E Quantities and Estimates
230.40.05	Roadway Quantities and Estimates
230.40.10	Highway Planting Quantities and Estimates
230.40.15	Drainage Quantities and Estimates
230.40.20	Traffic Quantities and Estimate
230.40.25	Electrical Quantities and Estimates
230.40.30	Utility Quantities and Estimate
230.40.35	Water Pollution Control Quantities and Estimates
230.40.40	Erosion Control Quantities and Estimates
230.40.99	Other Draft PS&E Quantities And Estimates Products
230.55	Structures Draft PS&E Incorporation
230.60	Updated Project Information for PS&E Package
230.60.05	Updated Storm Water Data Report
230.60.10	Other Reviews and Update of Project Information
230.90	NEPA Delegation
230.99	Other Draft PS&E Products
235	Mitigate Environmental Impacts and Clean up Hazardous Waste
235.05	Environmental Mitigation
235.05.05	Historical Structures Mitigation
235.05.10	Archaeological and Cultural Mitigation
235.05.15	Biological Mitigation

WBS	WBS Name
235.05.20	Environmental Mitigation Right of Way Work
235.05.25	Paleontology Mitigation
235.05.99	Other Environmental Mitigation Products
235.10	Detailed Site Investigation for Hazardous Waste
235.10.05	Right or Permit for Hazardous Waste Site Investigations
235.10.10	Hazardous Waste Sites Survey
235.10.15	Detailed Hazardous Waste Site Investigation
235.15	Hazardous Waste Management Plan
235.20	Hazardous Waste PS&E
235.25	Hazardous Waste Clean-up
235.30	Certificate of Sufficiency
235.35	Long Term Mitigation Monitoring
235.40	Updated Environmental Commitments Record
235.45	NEPA Delegation
240	Draft Structures PS&E
240.50	Overall Draft Structures PS&E
240.55	Foundation Plan
240.60	Hydraulics Report
240.65	Preliminary Foundation Reports
240.70	Site Ready for Subsurface Exploration
240.75	Draft General Plans
240.80	Foundation Reports
240.85	Draft Structure Plans
240.90	Draft Structures Special Provisions and Cost Estimate
245	Post Right of Way Certification Work
245.50	Parcel and Project Documentation
245.60	Right of Way Appraisals
245.65	Right of Way Acquisition
245.70	Right of Way Relocation Assistance
245.75	Right of Way Clearance
245.80	Right of Way Condemnation
250	Final Structures PS&E Package
250.50	Project Review
250.55	Final Structure Plans
250.60	Final Structure Special Provisions and Cost Estimate
255	Circulate, Review, and Prepare Final District PS&E Package
255.05	Circulated & Reviewed Draft District PS&E Package
255.10	Updated PS&E Package
255.10.05	Updated Roadway PS&E
255.10.10	Updated Highway Planting PS&E
255.10.15	Updated Traffic PS&E
255.10.20	Updated Hydraulic PS&E
255.10.25	Updated Technical Reports
255.10.30	Updated Utility PS&E
255.10.35	Updated Electrical PS&E
255.10.99	Other Updated PS&E Products
255.15	Environmental Re-evaluation
255.20	Final District PS&E Package
255.20.05	Reviewed Plans for Drafting Standards Compliance
255.20.10	Final Structures Specifications and Estimate Incorporated into Final District PS&E
255.20.15	Request for Funds
255.25	Geotechnical Information Handout
255.30	Materials Information Handout
255.35	Construction Staking Package and Control
255.35.10	Construction Staking Package
255.35.20	Project Control for Construction
255.40	Resident Engineer's Pending File
255.45	NEPA Delegation
255.50	Secured Lease for Resident Engineer Office Space or Trailer
255.55	Contractor Outreach
255.65	Right of Way Certification Document

WBS	WBS Name
255.70	Right of Way Engineering Products
255.75	Upgraded/Updated Right of Way Certification Document
260	Contract Bid Documents Ready to List
260.50	Project Submittal Ready to Process (PS&E)
260.60	Draft Contract Comments (DCC)
260.70	Draft Contract Comment Response (DR)
260.75	Environmental Certification at RTL
260.80	Draft Contract Ready
260.90	Ready to List
265	Awarded and Approved Construction Contract
265.50	Contract Ready for Advertising
265.55	Advertised Contract
265.60	Bids Opened
265.65	Contract Award
265.70	Executed and Approved Contract
265.75	Independent Assurance
270	Construction Engineering and General Contract Administration
270.10	Construction Staking Package and Control
270.10.10	Construction Staking Package
270.10.20	Project Control for Construction
270.15	Construction Stakes
270.15.15	Slope Stakes
270.15.25	Rough Grade Stakes
270.15.30	Final Grade Stakes
270.15.35	Drainage and Minor Structure Stakes
270.15.50	Miscellaneous Stakes
270.15.55	Photogrammetric Product for Construction
270.15.60	Ground Stakes for Major Structure
270.15.65	Superstructure Stakes for Major Structure
270.20	Construction Engineering Work
270.20.05	Resident Engineer's File Review
270.20.10	Project Plans Special Provisions and Estimate Review
270.20.15	Contract Pay Quantities
270.20.20	Lines and Grades Control
270.20.25	Contractors' Falsework Submittals Review
270.20.30	Contractors' Trenching and Shoring Submittals Review
270.20.35	Shop Plans Review
270.20.40	Cost Reduction Incentive Proposals (CRIPS) Review
270.20.45	Contractors' Water Pollution Control Program Review
270.20.50	Technical Support
270.20.99	Other Construction Engineering Products
270.25	Construction Contract Administration Work
270.25.05	Secured Lease for Resident Engineer Office Space or Trailer
270.25.10	Set Up Construction Project Files
270.25.15	Pre-Construction Meeting
270.25.20	Progress Pay Estimates
270.25.25	Weekly Statement of Working Days
270.25.30	Construction Project Files and General Field Office Clerical Work
270.25.35	Labor Compliance Activities
270.25.40	Approved Subcontractor Substitutions
270.25.45	Coordination
270.25.50	Civil Rights Contract Compliance
270.25.99	Other Construction Contract Administration Products
270.30	Contract Item Work Inspection
270.30.05	Photographed Jobsite and Contractors' Operations
270.30.10	Inspection of Contractors' Work for Compliance
270.30.15	Contractors' Operations Relative to Safety Requirements Documentation
270.30.20	Daily Diary of Contract Operations
270.30.25	Punch List
270.35	Construction Material Sampling and Testing
270.35.05	Materials Sampling and Testing for Quality Assurance

WBS	WBS Name
270.35.10	Plant Inspection for Quality Assurance
270.35.15	Independent Assurance Sampling and Testing
270.35.20	Source Inspection
270.40	Safety and Maintenance Reviews
270.45	Relief from Maintenance Process
270.55	Final Inspection and Acceptance Recommendation
270.60	Plant Establishment Administration
270.65	Transportation Management Plan Implementation During Construction
270.70	Updated Environmental Commitments Record
270.75	Resource Agency Permit Renewal and Extension Requests
270.80	Long-Term Environmental Mitigation/Mitigation Monitoring during Construction Contract
270.99	Other Construction Engineering And General Contract Administration
275	Construction Engineering and General Contract Administration of Structures Work
275.10	Office Administration Work for Structures
275.20	Field Administration Work for Structures
275.30	Contract Change Order Inspection for Structures Work
275.40	Safety Tasks for Structures Work
285	Contract Change Order Administration
285.05	Contract Change Order (CCO) Process
285.05.05	Need For CCO Determination
285.05.10	Draft Contract Change Order
285.05.15	Contract Change Order Approval
285.05.20	Payments for Contract Change Order Work
285.10	Functional Support
285.10.05	Field Surveys for Contract Change Order
285.10.10	Staking for Contract Change Order
285.10.15	Other Functional Support
290	Resolve Contract Claims
290.05	Analysis of Notices of Potential Claims
290.10	Supporting Documentation and Responses to Notices of Potential Claims
290.15	Reviewed and Approved Claim Report
290.20	District Claim Meeting or Board of Review
290.25	Arbitration Hearing
290.30	Negotiated Claim Settlement
290.35	Technical Support
295	Accept Contract Prepare Final Construction Estimate and Final Report
295.05	Processed Estimate After Acceptance
295.10	Proposed Final Contract Estimate
295.15	As-Built Plans
295.20	Project History File
295.25	Final Report
295.30	Processed Final Estimate
295.35	Certificate of Environmental Compliance
295.40	Long Term Environmental Mitigation/Mitigation Monitoring After Construction Contract Acceptance
295.45	Post-Construction Traffic Operations Activities
295.45.05	Speed Survey Records
295.45.05.05	Speed Survey
295.45.05.10	Signed Speed Survey
295.45.10	Commission TMS Elements
295.99	Other Accept Contract/ Prepare Final Construction Estimate And Final Report
300	Final Right of Way Engineering
300.05	Right of Way Monumentation
300.05.05	Right of Way Monumentation Survey
300.05.10	Filed Monumentation Record of Survey

WBS	WBS Name
300.10	Trial Exhibits and Testimony
300.25	Relinquishment and Vacation Maps
300.30	Deed Package for Excess Land Transactions
300.35	Right of Way Record Map

Glossary

<i>Term</i>	<i>Definition</i>
Activity	A component of work performed during the course of a project. ⁵ For example, in XPM use, it denotes the lowest level in the Work Breakdown Structure.
Capital Outlay Support	Staff resources (salaries, operating expenses and personnel years) required to plan, design, acquire rights of way, and contract capital outlay projects. Includes engineering, right of way, day labor, and other staff support services necessary to accomplish each project. This term is replaced by Capital Project throughout this manual
Capital Project	A temporary endeavor undertaken to create a unique physical improvement to the transportation system in California. The word “project” refers to the work that is performed. Projects produce products.
Level	The point where the WBS has been decomposed. The higher the level number the lower the decomposition
OBS	The Organizational Breakdown Structure is a hierarchical organized description of the project organization arranged so as to related the work packages to the performing organizational units. ⁶
Pseudo Activities	In certain cases, it is helpful to allow addition of an activity to represent a small grouping of activities when reporting to each one might be onerous.
Task	A discrete unit of work or summary of activities that, when completed, produce some product or decision. In XPM use, it denotes a unit of work that has lower level breakdown. It is a summary. Since an activity can become a summary task by adding lower level activities, these terms are relative to the discussion and may be used interchangeably in most circumstances.
Template	An outline or master plan of tasks and activities that can be modified for a specific project. The template can contain the usual set of activities for some type of project or it can contain all possible activities.
Work package	A deliverable or project work component at the lowest level of each branch of the work breakdown structure ⁷ .
XPM	Abbreviation for the software package eXpert Project Management that was selected for statewide management of Capital Projects.

⁵ *A Guide to the Project Management Body of Knowledge (PMBOK Guide)* – Fourth Edition, 2008:436

⁶ *A Guide to the Project Management Body of Knowledge (PMBOK Guide)* – Fourth Edition, 2008:438

⁷ *A Guide to the Project Management Body of Knowledge (PMBOK Guide)* – Fourth Edition, 2008:453

Common Acronyms

AA	After Acceptance	FHWA	Federal Highway Administration
AAC	Airspace Advisory Committee	FOE	Finding of Effect
AHCP	Advisory Council of Historic Preservation	FR	Foundation Report
APCD	Air Pollution Control District	GDR	Geotechnical Design Report
APE	Archaeological of Potential Effects	HABS	Historic American Building Survey
ARB	Air Resources Board	HAER	Historic American Engineering Record
ASR	Archaeological Survey Report	HAR	Highway Advisory Roles
BCDC	Bay Conversation and Development Commission	HDM	Highway Design Manual
BEES	Basic Engineering Estimate System	HOV	High Occupancy Vehicle
CADD	Computer Aided Design & Drafting	HPSR	Historic Property Survey Reports
CCO	Contract Change Order	HQOE	Headquarters Office Engineer
CCUA	Consent to Common Use Agreement	HRCRP	Historic Resource Compliance Report
CEQA	California Environmental Quality Act	HRER	Historic Resource Evaluation Reports
CHP	California Highway Patrol	HSDD	Hazardous Substance Disclosure Document
CMS	Changeable Message Sign	HWMP	Hazardous Waste Management Plan
CO	Carbon Monoxide	ISA	Initial Site Assessment
COS	Certificate of Sufficiency	JUA	Joint Use Agreement
COZEEP	Construction Zone Enhanced Enforcement Program	LEPDA	Least Environmental Damaging, Practicable Alternative
CPT	Cone Penetrometer Test	LOS	Level Of Service
CR	Constructability Review	LOTB	Log Of Test Borings
CRIPS	Cost Reduction Incentive Proposal	MIH	Materials Information Handout
CSNP	Construction Staking Notes Package	MMRR	Mitigation Monitoring & Reporting Record
CTC	California Transportation Committee	MOU	Memorandum Of Understanding
DCC	Draft Contract Comments	MPO	Metropolitan Planning Organization
DED	Draft Environmental Document	MUTCD	Manual of Uniform Traffic Control Devices
DES	Division Engineering Services	NBSSR	Noise Barrier Scope Summary Report
DPGR	District Preliminary Geotechnical Report	NEPA	National Environmental Policy Act
DRB	Dispute Review Board	NES	National Environment Study
DTM	District Traffic Manager	NOD	Notice of Determination
ECR	Environmental Commitments Record	NOI	Notice of Intent
ESA	Environmental Sensitive Areas	NOP	Notice of Preparation
ESR	Environmental Study Report	NOPC	Notice of Potential Claim
E-FIS	Enterprise Resource Planning Financial Infrastructure	NPDES	National Pollutant Discharge Elimination System
FE	Final Estimate	NRHP	National Register of Historic Places
FED	Final Environmental Document	OOE	Office of the Office Engineer
		OPPD	Office of Project Planning and

OSFP	Design (obsolete) Office of Special Funded Projects	RTP	Regional Transportation Plan
P&Q	Plans and Quantities	RTPA	Regional Transportation Planning Agency
PAAR	Preliminary Architectural & Aesthetics Report	RWPS	Property Management Property System
PAM	Permits, Agreements, & Mitigation	SAFETEA- LU	Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users
PDPM	Project Development Procedure Manual	SER	Standard Environmental Reference
PDT	Project Development Team	SF	Semi Final Estimate
PDWTM	Project Delivery Workflow Task Manual	SHPO	State Historic Preservation Officer
PE	Project Engineer	SI	Site Investigations
PER	Palentological Evaluation Report	SIP	State Implementation Plan
PERT	Project Evaluation & Review Technique	SPGR	Structure Preliminary Geotechnical Report
PES	Preliminary Environmental Study	SPS&E	Structures Plans Specifications & Estimates
PFE	Proposed Final Estimate	SRE	Scenic Resource Evaluation
PFR	Preliminary Foundation Report	SSP	Standard Special Provision
PHR	Preliminary Hydraulics Report	SWBS	Standard Work Breakdown Structure
PI	Preliminary Investigations	SWPPP	Storm water Pollution Protection Plan
PID	Project Initiation Document	TASAS	Traffic Accident Surveillance and Analysis System
PIR	Palentological Identification Report	TCR	Traffic Congestion Relief
PMBOK	Project Management Body of Knowledge	TERO	Tribal Employment Right Office
PMCS	Project Management Control System	TMC	Traffic Management Center
PMD	Project Management Directives	TMP	Traffic Management Plan
PMP	Palentological Monitoring Plan	TMS	Traffic Monitoring Status
PMS	Pavement Management System	TRPA	Tahoe Regional Planning Agency
PPDG	Storm water Project Planning & Design Guide	VIA	Visual Impact Assessment
PR	Project Report	WBS	Work Breakdown Structure
PS&E	Plans Specifications & Estimates	WEN	Work Estimating Norms
PSI	Preliminary Site Investigation	WP	Work Package
PSR	Project Study Report	XPM	eXpert Project Management
PSSR	Project Scope Summary Report		
PWBS	Project Work Breakdown Structure		
RAP	Remedial Action Plan		
RE	Resident Engineer		
RFP	Request For Proposal		
RFQ	Request For Qualifications		
ROD	Record of Decision		
ROI	Report of Investigation		
RTIP	Regional Transportation Improvement Plan		
RTL	Ready To List		

Part IV Milestones Associated with WBS 10.1 Elements

*Note: This Appendix should serve as a general point of reference, some variation may exist. In some circumstances, the relationship between milestone and activity can be tailored to fit the project.

I.D.	Abbreviated Milestone Name	Milestone Name	Milestone Definition	Level 4 Comp	WBS Level 4/Phase	WBS Level	Main Milestone to WBS Logic Tie*	Environmental Doc. Type Required	Status
M000	ID NEED	IDENTIFY NEED	Date District identifies project need and begins project studies.	1	K	5	Start-1.150	CE-ND-EIR-EIS	<u>Optional</u>
M010	APPROVE PID	APPROVE PID	Date District approves Project Initiation Documents.	1	K	5	Finish-1.150	CE-ND-EIR-EIS	<u>Optional</u>
M015	PROG PROJ	PROGRAM PROJECT	Date Project is programmed as part of workload document.	2	0	5	Start-2.160	CE-ND-EIR-EIS	<u>HO</u> <u>Mandatory</u>
M020	BEGIN ENVIRO	BEGIN ENVIRONMENTAL	Date District begins Environmental Studies.	2	0	5	Start-2.165	CE-ND-EIR-EIS	<u>HO</u> <u>Mandatory</u>
M030	NOP	NOTICE OF PREPARATION (NOP)	Date Notice of Preparation (NOP) filed with State Clearinghouse—CEQA Requirement.	2	0	5	Start-2.165 with "x" number of days lag determined by Project Team. Related within 165.05.10.	EIR only	<u>HO</u> <u>Mandatory</u>
M035	NOI	NOTICE OF INTENT (NOI)	Date Notice of Intent (NOI) published in Federal Register FHWA—NEPA Document.	2	0	5	Start-2.165 with "x" number of days lag determined by Project Team. Related within 165.05.10.	EIS	<u>HO</u> <u>Mandatory</u>
M040	BEGIN PROJ	BEGIN PROJECT	Date District initiates Draft Project Report	2	0	5	Start-2.160	ND-EIR-EIS	<u>Optional</u>
M060	CIRC DPR & DED INT	CIRC DPR & DED INTERNALLY IN DIST	Date District circulates Draft Project Report & Draft Environmental Document Internally within the District	2	0	7	Finish-2.165.25.20	ND-EIR-EIS	<u>Optional</u>
M100	APPROVE DPR	APPROVE DPR	Date District approves Draft Project Report	2	0	5	Finish-2.160	ND-EIR-EIS	<u>Optional</u>
M120	CIRC DPR & DED EXT	CIRCULATE DPR & DED EXTERNALLY	Date of Draft Environmental Document circulation.	2	0	6	Finish-2.175.05	ND-EIR-EIS	<u>HO</u> <u>Mandatory</u>
M140	PUBLIC HEARING	PUBLIC HEARING	Date District conducts the public hearing.	2	0	5	Finish-2.175	ND-EIR-EIS	<u>Optional</u>
M160	APPROVE FED	APPROVE FED	Date of approval of Final Environmental Document (FED).	2	0	6	Finish-2.180.10	ND-EIR-EIS	<u>Optional</u>
M200	PA & ED	PA & ED	Project Approval and Environmental Document (PA&ED). Date of approval to proceed with PS&E. Final Environmental Document has NEPA approval.	2	0	5	Finish-2.180	CE-ND-EIR-EIS	<u>HO</u> <u>Mandatory</u>
M210	BEGIN DESIGN	BEGIN DESIGN	Date District starts Design efforts in phase 1	3	1	5	Start of 3.185 or 3.230 or 3.240, whichever is earliest	CE-ND-EIR-EIS	<u>HO</u> <u>Mandatory</u> <u>PIB only</u>
M220	GEO BASE MAP	GEO BASE MAP	Date District completes the geometric base maps.	3	1	6	Finish-3.185.15		<u>Optional</u>
M221	BRIDGE SITE DATA RECEIVED	BRIDGE SITE DATA RECEIVED	Date Division of Engineering Services receives the District's bridge site data.	3	1	6	Finish-3.185.30		<u>Optional</u>

LD.	Abbreviated Milestone Name	Milestone Name	Milestone Definition	Level 4 Comp	WBS Level 4/Phase	WBS Level	Main Milestone to WBS Logic Tie*	Environmental Doc. Type Required	Status
M224	R/W REQTS	RIGHT OF WAY REQUIREMENTS	Date District sends Right of Way Requirements to Right of Way Engineering.	3	1	6	Finish-3.185.25		Optional
M225	REGULAR R/W	REGULAR RIGHT OF WAY	Date District Right of Way initiates Right of Way appraisals.	4	2	5	Start-4.225		Optional
M260	SKELETON LAYOUT	SKELETON LAYOUT	Date the District distributes geometric base maps to functional units	3	1	5	Finish-3.185		Optional
M265	FINAL R/W REQTS	FINAL RIGHT OF WAY REQUIREMENTS	Date District sends final Right of Way Requirements to Right of Way Engineering.	4	2	6	Finish-4.220.25		HQ. Mandatory. PIB only.
M275	GENERAL PLANS	GENERAL PLANS	Date DES sends structures general plans to District.	3	1	6	Finish-3.240.75		Optional
M300	CIRC PLANS IN DIST	CIRCULATE PLANS IN DISTRICT.	Date District circulates plans for review.	3	1	5	Finish-3.230		Optional
M310	DESIGN SAFETY REVIEW	DESIGN SAFETY REVIEW	Date District completes Safety Review	3	1	6	Finish-3.255.05		Optional
M311	30% CONST REVIEW COMPLETED	30% CONST REVIEW COMPLETED	Date District completes the 30% Constructability Review	3	1	7	Start-3.185.05.05 with "x" number of days lag determined by Project Team.		HQ. Mandatory. PIB only
M313	60% CONST REVIEW COMPLETED	60% CONST REVIEW COMPLETED	Date District completes the 60% Constructability Review	3	1	6	Start-3.230.60 with "x" number of days lag determined by Project Team.		HQ. Mandatory. PIB only
M315	95% CONST REVIEW COMPLETED	95% CONST REVIEW COMPLETED	Date District completes the 95% Constructability Review	3	1	6	Finish-3.255.05		HQ. Mandatory. PIB only
M360	ENV REEVAL	ENV REEVAL	Date District completes the environmental re-evaluation	3	1	6	Finish-3.255.15	CE-ND-EIRE-ES	Optional
M377	PS&E TO DOE	PS&E TO DOE	Date District completes PS&E and sends to District Office Engineer.	3	1	6	Start 3-255.20		Optional
M378	DRAFT STRUC PS&E	DRAFT STRUCTURES PS&E	Date Structures Design sends structures PS&E to District.	3	1	5	Finish-3.240		Optional
M380	PROJ PS&E	PROJECT PS&E	Date Project Submittal requirements are verified as complete by DE-S-OE.	3	1	6	Finish-3.260.50		HQ. Mandatory.
M390	DCC	DRAFT CONTRACT COMMENTS	Date DES Office Engineer provides Draft contract comments to District.	3	1	6	Finish-3.260.60		Optional
M400	DIST RESP	DISTRICT CONTRACT COMMENT RESPONSES	Date District resolves contract comments with DES-OE.	3	1	6	Finish-3.260.70		Optional
M410	R/W CERT	RIGHT OF WAY CERTIFICATION	Date District obtains Right of Way Certification.	4	2	5	Finish-4.225		HQ. Mandatory

I.D.	Abbreviated Milestone Name	Milestone Name	Milestone Definition	Level 4 Comp	WBS Level 4/Phase	WBS Level	Main Milestone to WBS Logic Tie*	Environmental Doc. Type Required	Status
M412	R/W CERT - READY TO AWARD	RIGHT OF WAY CERTIFICATION - READY TO ADVERTISE AND AWARD	Date District obtains Right of Way Certification as a R/W Cert 1, 2, or 3 with work around.	4	2	5	Start-4,245 with "X" number of days lag determined by Project Team.		<u>HO</u> Mandatory P13 only
M430	LCR	DRAFT CONTRACT READY	Date draft contract comment changes are incorporated & permits secured.	3	1	6	Finish-3,260.80		<u>Optional</u>
M460	RTL	READY TO LIST	Date RTL requirements are verified as complete by DES-OE.	3	1	6	Finish-3,260.90	CE-ND-EIR-EIS	<u>HO</u> Mandatory
M470	FUND ALLOCATION	FUND ALLOCATION	Date funds are allocated either by the CTC or through delegation or by other means.	3	1	6	Start-3,265.50		<u>Optional</u>
M480	HO ADVERT	HEADQUARTERS ADVERTISE	Date DES - Office Engineer advertises contract.	3	1	6	Start-3,265.55		<u>Optional</u>
M490	BIDS OPEN	BIDS OPEN	Date DES-Office Engineer opens bid contract.	3	1	6	Finish-3,265.60		<u>Optional</u>
M495	AWARD	AWARD	Date DES-Office Engineer Awards Contract to Contractor.	3	1	6	Finish-3,265.65		<u>HO</u> Mandatory
M500	APPROVE CONTRACT	APPROVE CONTRACT	Date Caltrans approves construction contract.	3	1	6	Finish-3,265.70		<u>HO</u> Mandatory
M550	FINAL SAFETY REVIEW	FINAL SAFETY REVIEW	Date District Completes Final Review	3	1	6	Finish-5,270.55		<u>Optional</u>
M600	CONTRACT ACCEPT	CONTRACT ACCEPTANCE	Date District accepts completed construction project.	5	3	5	Finish-5,270		<u>HO</u> Mandatory
M650	PROJECT CLOSEOUT INITIATED	PROJECT CLOSEOUT INITIATED	Date District initiates Project Close Out efforts	5	3	5	Start 5,295	CE-ND-EIR-EIS	<u>HO</u> Mandatory P13 only
M700	FINAL REPORT	FINAL REPORT	Date District completely prepares final project files.	5	3	5	Finish-5,295		<u>Optional</u>
M800	END PROJ	END PROJECT	All work complete from all functions including Env., R/W, and Surveys. Earliest Date Project can be archived.	4 & 5	2,3	5	Finish-5,295 and 4,300	CE-ND-EIR-EIS	<u>HO</u> Mandatory