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| --- |
| This document is to be completed by the CFT. The designer should send an email to CFT members (including the PM) approximately 2 weeks before needing the information. |

Project Name

**Project Number**

|  |
| --- |
| Delete next line for non-NPS projects: |

**NPS PMIS #**

**Project Technical Memorandum**

**(XX% Design)**



|  |
| --- |
| Delete next line for internal projects: |

**by *A/E Firm* *for***

**Federal Highway Administration**

**Central Federal Lands Highway Division**

**Date**

**Introduction and Project Scope**

|  |
| --- |
| [LINK to Example](https://highways.dot.gov/federal-lands/pddm/cfl/project-technical-memorandum-examples)  Provide a brief description of the project (location, existing conditions, major work elements, project concerns, etc.). This should be kept high level. For details, reference the reader back to the scoping report, technical reports, or other applicable project documents. |

## Scope Revisions (Major Revisions from Previous Submittal and Reasons for Change)

|  |
| --- |
| [LINK to Example](https://highways.dot.gov/federal-lands/pddm/cfl/project-technical-memorandum-examples)  To be completed by the entire CFT with input from the PM. Describe the major revisions and/or updates that have been made to the design since the previous submittal. This should be summarized at a high level and in more detail as needed by discipline. Include a short explanation for the cause/reason for the revision. Keep a running list of changes through the project duration. |

## Revisions from 95% Submittal

* Insert Major Revision

Revisions from 70% Submittal

* Insert Major Revision

Revisions from 30% Submittal

* Insert Major Revision

Revisions from Scoping

* Insert Major Revision

## PS&E Deliverables

|  |
| --- |
| To be completed by the entire CFT with input from the PM. Be specific on where we want internal staff and external partners to focus their review. Note where we are still waiting on final recommendations, reports, and decisions. Note any pending deliverables. Include any exceptions to design criteria. |

Please review all the PS&E deliverables. Extra consideration should be taken for the following:

## Plans:

* + Any details from a maintenance perspective, traffic control plans, etc.

## Specifications:

* + 105: Staging area locations, material and water sources
  + 107: Project specific environmental commitments and restrictions, fire plan
  + 108: Work restrictions, holidays and local events, completion date
  + 156: Allowable delays and closures
  + 625 and 713: Seed mix, seeding dates

## Estimate:

* + Any high risk, high dollar pay items. Are the unit prices in alignment with local/regional trends and history?
  + Any CBUPA performed and any anticipated unit price verifications at pending milestones.

## Other (Technical Reports, Structure Criteria Memo, HDS, requests for Partner Approval, etc.)

|  |
| --- |
| [LINK to Example](https://highways.dot.gov/federal-lands/pddm/cfl/project-technical-memorandum-examples) |

## Project Specific Risks

|  |
| --- |
| [LINK to Example](https://highways.dot.gov/federal-lands/pddm/cfl/project-technical-memorandum-examples)  To be completed by the PM with input from the entire CFT. The intent is to highlight risk items for discussion during milestone reviews and meetings. |

|  |  |  |
| --- | --- | --- |
| Description of Risk | Date or Milestone Risk was Identified | Status  (How is risk being mitigated, actions or decisions needed, and responsible party) |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

## Construction Cost Estimate

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| --- |
| [LINK to Example](https://highways.dot.gov/federal-lands/pddm/cfl/project-technical-memorandum-examples)  To be completed by the lead designer. If you have multiple schedules and options, list separately in the table. This table is intended to be a high level summary showing EE trends through the project lifecycle. If there are significant changes, add remarks in the last column to explain. |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Milestone | Date of Milestone | Program Year | Escalation Rate Used | Escalated Estimate | Causes of Major Changes |
| Scoping |  |  |  | $X,XXX,XXX |  |
| 15% |  |  |  | $X,XXX,XXX |  |
| 30% |  |  |  | $X,XXX,XXX |  |
| 50% |  |  |  | $X,XXX,XXX |  |
| 70% |  |  |  | $X,XXX,XXX |  |
| 95% |  |  |  | $X,XXX,XXX |  |
| 100% |  |  |  | $X,XXX,XXX |  |

## Project Schedule

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| To be completed by the lead designer with input from the PM. If there have been significant schedule changes provide an explanation. | | | | |
| Milestone | PS&E Delivery Year | Program Year | Construction Duration (days or months) | Causes of Major Changes | |
| Scoping |  |  |  |  | |
| 30% |  |  |  |  | |
| 70% |  |  |  |  | |
| 95% |  |  |  |  | |
| 100% |  |  |  |  | |

## Design, Traffic and Safety Data

Refer to the HDS for Highway Design Standards documentation.

## Crash History:

|  |
| --- |
| [LINK to Example](https://highways.dot.gov/federal-lands/pddm/cfl/project-technical-memorandum-examples)  To be completed by the lead designer with input from the Safety Engineer and PM. Provide any relevant crash history and analysis that may affect the design. |

## Clear Zone and Barrier Crashworthiness:

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| --- |
| [LINK to Example](https://highways.dot.gov/federal-lands/pddm/cfl/project-technical-memorandum-examples)  To be completed by the lead designer with input from the Safety Engineer and PM. Provide a clear zone analysis if the project is not meeting FLH standards, including the risks associated with not meeting the standard. Discuss any exceptions to the Barrier Crashworthiness standard value (e.g. historic walls, unique bridge rails, etc.). |

|  |  |  |
| --- | --- | --- |
| **FLH Supplemental**  **Design Standards** | | |
|  | FLH  Standard | Used on This Project |
| Clear Zone |  |  |
| Barrier Crashworthiness |  |  |

## Bicycle Design:

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| --- |
| To be completed by the lead designer. Delete this section if not applicable. Describe reasons for any exceptions to guidelines. |

Design Guidelines: AASHTO Guide for the Development of Bicycle Facilities 2012

|  |  |  |  |
| --- | --- | --- | --- |
| **Criteria** | **Guideline** | **As Designed** | **Exception** |
| **1. Design Speed (AASHTO 5.2.4)** |  |  |  |
| **2. Width (AASHTO 5.2.1)** |  |  |  |
| **3. Shoulder Width (AASHTO 5.2.1)** |  |  |  |
| **4. Shoulder Slope (AASHTO Figure 5-1 and 5.2.1)** |  |  |  |
| **5. Cross Slope (AASHTO 5.2.6** |  |  |  |
| **6. Horizontal Curvature (AASHTO Table 5-2)** |  |  |  |
| **7. Superelevation** |  |  |  |
| **8. Grade (AASHTO 5.2.7)** |  |  |  |
| **9. Vertical Curvature (AASHTO Figure 5-8)** |  |  |  |
| **10. Stopping Sight Distance (AASHTO Table 5-4)** |  |  |  |
| **11. Horizontal Clearance to Structure (not clear zone)** |  |  |  |
| **12. Vertical Clearance to Obstruction (AASHTO 5.2.1)** |  |  |  |
| **13. Clear Zone/Horizontal Clearance (AASHTO 5.2.1)** |  |  |  |

**Descriptions of, and reasons for, exceptions to guidelines:**

## ADA Design:

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| --- |
| [LINK to Example](https://highways.dot.gov/federal-lands/pddm/cfl/project-technical-memorandum-examples)  To be completed by the lead designer. Delete this section if not applicable. Describe locations of ADA facilities, the design criteria (ADA, ABA, etc.) and methodology used, and where we were unable to attain ADA requirements and why. If not applicable, note “not applicable”. |

## Environment/Permits

|  |
| --- |
| [LINK to Example](https://highways.dot.gov/federal-lands/pddm/cfl/project-technical-memorandum-examples)  To be completed by the Environment group. Delete this section if not applicable. Present an overview of the environmental process (e.g., NEPA approach, NHPA, ESA, Section 4f) and environmental permit expectations/requirements for the project. This should cover CFL compliance expectations and other federal agency (or state/local if applicable) compliance expectations (e.g., if another federal agency is leading the process, note what they are doing and explain CFL’s role). For later design milestones, this should also highlight/summarize key environmental commitments that have been agreed to. |

## Right-of-Way and Utilities Coordination

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| --- |
| [LINK to Example](https://highways.dot.gov/federal-lands/pddm/cfl/project-technical-memorandum-examples)  To be completed by the ROW group with input from the PM. Delete this section if not applicable. Describe any right-of-way or easements that will need to be obtained and status. Identify any potential issues with property owners. Describe existing utilities near the project corridor. Describe any utility work that is part of the design and any agreements for temporary and permanent relocation and status. |

## Non-Environmental Permits

|  |
| --- |
| To be completed by the PM. Delete this section if not applicable. |

## Other

|  |
| --- |
| Add other sections for specific disciplines as needed. Delete this section if not applicable. |

## Project Cross Functional Team

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| --- |
| Provide a list including contact information of CFT/PST members. |

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Name** | **Phone** | **Email** |
| **Project Manager** |  |  |  |
| **Design** |  |  |  |
| **Environment/Permits** |  |  |  |
| **Survey** |  |  |  |
| **Bridge** |  |  |  |
| **ROW/Utilities** |  |  |  |
| **Safety** |  |  |  |
| **Geotechnical** |  |  |  |
| **Pavements/Materials** |  |  |  |
| **Hydraulics** |  |  |  |
| **Construction** |  |  |  |