# Preliminary Engineering Report (PER) QA/QC Checklist

**March 2023- WORD version**

Project Name: Click or tap here to enter text.

FM #: Click or tap here to enter text. FAP#: Click or tap here to enter text.

Project Limits: Click or tap here to enter text.

Consultant: Click or tap here to enter text.

Reviewer: Click or tap here to enter text. Date: Click or tap to enter a date.

Additional Information:

DEMO QC Complete Date: Click or tap to enter a date. Green = DEMO Responsibility

OEM Engineer QA Complete Date: Click or tap to enter a date. Blue = OEM Responsibility

Orange = Both

The purpose of this checklist is to facilitate the preparation of quality Preliminary Engineering Reports (PERs). This checklist is applicable to Florida Department of Transportation (FDOT) District and consultant preparers and Quality Control (QC) reviewers of PERs. This guidance covers common QC items but is not intended to be all inclusive. The preparer will comply with the requirements set forth in Part 2, Chapter 3 (Engineering Analysis) of the Project Development and Environment (PD&E) Manual and all other applicable chapters of the PD&E Manual. All Section references in this checklist refer to the 2023 version of the PD&E Manual, Part 2 Chapter 3.

All projects are required to go through a Quality Assurance (QA)/QC check at the District level before submittal for Office of Environmental Management (OEM) initial review (see [OEM’s QC Plan for PD&E Studies website](https://www.fdot.gov/environment/qc-plan-template.shtm)). During this process the following general items should be addressed:

|  |  |  |
| --- | --- | --- |
| District | OEM |  |
|  |  | There are no blank pages or formatting issues. |
|  |  | All acronyms are spelled out the first time they appear. |
|  |  | All figures and graphics are legible. |
|  |  | All figures are numbered and referenced correctly. |
|  |  | The document is clear and easy to understand. |
|  |  | The document is written from an FDOT perspective, not from a perspective of consultant writing it on behalf of FDOT (e.g., there should not be statements such as “It is recommended FDOT provide/conduct/consider…”. The document should state what actions FDOT will take) |
|  |  | The correct terminology/tense is used (e.g., instead of saying “should” use the word “will” and “FDOT will” rather than “we recommend”). |
|  |  | The document does not include subjective information (e.g., stating opinion rather than facts, overexaggerating, fluff). |
|  |  | The document does not repeat language covered in standard statements. |
|  |  | The document avoids copying and pasting the same information repeatedly in different sections. Include information in one spot and add either a reference to it or include a summary of it elsewhere. |
|  |  | The names and/or logos of people or consulting firms are not included in the document, other than the Professional Engineer Certification. |
|  |  | Confirm Professional Engineer has signed and sealed the final PER. |
|  |  | The information in the text is consistent with information included in the project documents. |
|  |  | The document includes references to items included as attachments. |
|  |  | The list of technical documents includes all the documents under separate cover mentioned throughout the document. |

Before initial submittal for OEM review, the items in the following sections should be checked. If the item is not applicable to the project, select N/A:

# Cover Page

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Yes | No | N/A |  | OEM QA |
|  |  |  | Confirm that the ***Technical Report Cover Page, Form No. 650-050-38*** is used as the cover sheet of the report. |  |
|  |  |  | Confirm that the signature date is updated in the Final PER. | ☐ |
| Comments:Click or tap here to enter text. | | | | |

# Project Summary

PROJECT DESCRIPTION

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Yes | No | N/A |  | OEM QA |
|  |  |  | Include a Project Description per Section 3.2.10.2. | ☐ |
|  |  |  | The Project Description in the Final PER is consistent with the Environmental Document. |  |
|  |  |  | Include a project location map. |  |
| Comments: Click or tap here to enter text. | | | | |

PURPOSE AND NEED

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Yes | No | N/A |  | OEM QA |
|  |  |  | The purpose and need statement matches exactly what is in the Environmental Document. |  |
| Comments: Click or tap here to enter text. | | | | |

COMMITMENTS

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Yes | No | N/A |  | OEM QA |
|  |  |  | Identify all commitments that are made during the study. Be sure to include commitments from final technical documents and agency correspondence. |  |
| Comments: Click or tap here to enter text. | | | | |

ALTERNATIVES ANALYSIS SUMMARY

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Yes | No | N/A |  | OEM QA |
|  |  |  | Provide a summary of the alternatives analysis. Include the no-build alternative in the summary. |  |
| Comments: Click or tap here to enter text. | | | | |

DESCRIPTION OF PREFERRED ALTERNATIVE

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Yes | No | N/A |  | OEM QA |
|  |  |  | Briefly describe the Preferred Alternative. Include supporting reasons for selecting the preferred alternative to address the purpose and need for the project. |  |
|  |  |  | An appropriate level of engineering detail is used to describe the preferred alternative such as alignment, number of lanes, their width, major structures, proposed capacity and safety improvements, multi-modal accommodation, and estimated Right of Way to be acquired (parcels and acreage) and construction year. |  |
| Comments: Click or tap here to enter text. | | | | |

LIST OF TECHNICAL DOCUMENTS

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Yes | No | N/A |  | OEM QA |
|  |  |  | Include a list of Technical Documents developed for the study. |  |
|  |  |  | Include the dates of the draft or final Technical Documents as appropriate for the submittal. |  |
|  |  |  | Verify the Technical Documents are uploaded in the project file in SWEPT. |  |
|  |  |  | Do not include the names of people or consulting firms when referencing the Technical Documents. |  |
| Comments: Click or tap here to enter text. | | | | |

Existing Conditions

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Yes | No | N/A |  | OEM QA |
| ☐ | ☐ | ☐ | Include a discussion of any previous planning studies that were completed to support the development of this PD&E. | ☐ |
| ☐ | ☐ |  | Include a discussion of all existing roadway elements listed in Section 3.2.3.3.1. | ☐ |
| ☐ | ☐ | ☐ | Include a discussion of all existing bridge elements listed in Section 3.2.3.3.2. | ☐ |
| ☐ | ☐ |  | Include an existing land use map. | ☐ |
| ☐ | ☐ |  | Include an existing drainage map. | ☐ |
| ☐ | ☐ |  | Include an existing soils map. | ☐ |
| ☐ | ☐ |  | Include a summary of the potential environmental features listed in Section 3.2.3.3.3 that would affect development of project alternatives. | ☐ |
| Comments: Click or tap here to enter text. | | | | |

Future Conditions

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Yes | No | N/A |  | OEM QA |
|  |  | ☐ | Describe any anticipated changes to land use. |  |
|  |  |  | Describe any anticipated changes in context classification. |  |
|  |  |  | Document the future demand volumes and design hour volumes used in the traffic analysis. |  |
| Comments: Click or tap here to enter text. | | | | |

# Design Controls and Criteria

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Yes | No | N/A |  | OEM QA |
| ☐ | ☐ |  | Design Controls are stated. | ☐ |
|  |  |  | Document all relevant roadway, structure and drainage design criteria used in developing project alternatives. | ☐ |
| Comments: Click or tap here to enter text. | | | | |

# Alternatives Analysis

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Yes | No | N/A |  | OEM QA |
|  |  |  | Include a discussion of the advantages and disadvantages of the No-Action Alternative (or No-Build Alternative). | ☐ |
|  |  |  | Include a statement as to why the No-Action alternative is not the preferred alternative. |  |
| ☐ | ☐ |  | Describe the TSM&O Alternative. Discuss TSM&O strategies that are integrated or have a potential to be integrated with the Build Alternative(s). | ☐ |
| ☐ | ☐ |  | Explain how the TSM&O Alternative would meet (or fail to meet) the project’s purpose and need. | ☐ |
|  |  |  | Include a discussion of the Multimodal Alternative. |  |
| ☐ | ☐ | ☐ | Include any multimodal projects from the MPO LRTP, Local Government Comprehensive Plan (LGCP), and Transit Development Plans that are planned along the corridor for possible inclusion into the project. | ☐ |
| ☐ | ☐ |  | Include a discussion of the Build Alternative(s) to be included in the comparative Alternatives Evaluation. | ☐ |
| ☐ | ☐ | ☐ | Include a discussion of alternatives, including associated TSM&O strategies, which were considered for the project but eliminated from detailed study (during the Planning or PD&E phase). | ☐ |
| ☐ | ☐ |  | Document all applicable engineering elements of the Build Alternative(s) listed in Section 3.2.5 that were considered in the development of Build Alternatives. | ☐ |
| ☐ | ☐ |  | Include a summary of environmental features that were considered in the development of the Build Alternative(s). | ☐ |
| ☐ | ☐ |  | Describe the alternatives evaluation methodology used to objectively compare all alternatives | ☐ |
| ☐ | ☐ | ☐ | Document the recommendations from the Value Engineering Study. | ☐ |
| ☐ | ☐ |  | Include an Alternatives Evaluation Matrix to tabulate the performance of each viable alternative in meeting the evaluation criteria. The comparative alternative evaluation must include the No-Action Alternative (No-Build Alternative). | ☐ |
| ☐ | ☐ |  | Document the selection of the Preferred Alternative. |  |
| Comments: Click or tap here to enter text. | | | | |

# Public Involvement and Agency Coordination

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Yes | No | N/A |  | OEM QA |
| ☐ | ☐ |  | Briefly explain how ETDM comments were used to develop alternatives and identify mitigation. | ☐ |
|  |  |  | Include coordination with MPO/County/City and citizens as well as resource agencies. |  |
| ☐ | ☐ |  | Briefly describe public involvement approach followed, reference Comments and Coordination Report for detail. | ☐ |
| ☐ | ☐ |  | Briefly discuss how public comments were considered in the development and refinement of Build Alternatives | ☐ |
| ☐ | ☐ |  | Document all public meetings and hearing(s) held for the project. | ☐ |
| Comments: Click or tap here to enter text. | | | | |

# Preferred Alternative

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Yes | No | N/A |  | OEM QA |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ☐ | ☐ |  | Include a discussion of the elements of the Preferred Alternative per Section 3.2.9. | ☐ |
| Comments: Click or tap here to enter text. | | | | |

**APPENDIX**

**Preliminary Engineering Report**

**Attachments vs. Technical Documents**

**Attachments vs. Technical Documents**

Documents included in the Appendix as attachments are considered part of the PER document. The Appendix contains documents which support the evaluations documented in the PER. Examples of these optional Appendices are shown below. Additionally, some projects may need to refer to additional Technical Documents as appropriate. Please evaluate each project as necessary.

Technical Documents are documents contained under separate cover. They should be referenced in the PER and are included in the project file in SWEPT. This includes technical reports (e.g., Project Traffic Analysis Report, Conceptual Stage Relocation Plan, Natural Resource Evaluation), technical memorandums, and studies.

Be sure Appendices and Technical Documents are described/named clearly.

**ATTACHMENTS - Note: All maps may be embedded in the document or attached.**

□ District Approved Typical Section Package, signed and sealed

□ Concept Plans

□ Long Range Estimates (LRE)

□ Comments and Coordination Report

**TECHNICAL DOCUMENTS - Reference in the PER in the Technical Documents section as applicable and upload to SWEPT separately.** **Consult the standard scope of services for all needed reports to be included for the PD&E. Some common Technical Documents are listed below.**

Engineering Documents

□ Location Hydraulics Report (LHR)

□ Bridge Hydraulic Report (BHR)

□ Pond Siting Report (PSR) / Conceptual Drainage Design Report

□ Water Quality Impact Evaluation (WQIE)

□ Geotechnical Report

□ Interchange Access Request Report

□ Project Traffic Analysis Report (PTAR)

□ Safety Analysis Memorandum

□ Intersection Control Evaluation (ICE) Forms

□ Bridge Development Report (BDR)

□ Bridge Replacement Report

□ Design Exceptions/Variation Package

□ Value Engineering (VE) Study Report

□ Utility Assessment Package

Environmental Documents

□ Cultural Resources Assessment Survey (CRAS) or Technical Memorandum

□ Individual Section 4(f) Evaluation and Section 106 Notification Letter

□ Natural Resources Evaluation (NRE) or Technical Memorandum

□ Noise Study Report

□ Contamination Screening Evaluation Report

□ Conceptual State Relocation Plan

Public Involvement Documents

□ Comments and Coordination Report

□ Public Hearing Transcript